FOR USERS OF
Windows® CE

63 New Products & Services

NOV/DEC 1998 VOL. 1, NO. 6

HANDHELD PC

MAGAZINE www.thaddeus.com

Microsoft unveils Windows CE 2.1 for the new Handheld PC Professional

Go Wireless!

Novatel CONTACT H/PC

with built-in wireless modem!

LG PHENOM EXPRESS

Sharp TriPad!

New H/PC Pro Hardware!

Top Ten Fever!

- Ed Zabrek's TOP 10 H/PC Essentials
- 1998's TOP 10 PC Companion Websites

Plus: Get E-mail Using Your Mobile Phone!

Andrew Seybold

Wireless Packet Data solutions for PC Companion users.

Try Before You Buy!

A quick look at software you can try for free!

and... Quick Tips and PC Companion Tricks

Compaq C-Series

Color-screen H/PC that fits in your pocket

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Now access your e-mail, calendar, address book and corporate database from anywhere!

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Now you can carry your link to your corporate data in your pocket or purse! That's because River Run Software Group provides a suite of products and services that lets you and your Windows CE-based PC Companion access your company information—directly and remotely, over dial-up, circuit-switched cellular and wireless packet data networks.

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Calendaring and Scheduling

The *All in Sync!*® product allows you to remotely access your mail and synchronize Calendar, Tasks and Contacts databases on your PC Companion with group calendaring and scheduling, tasks and contact data stored in Lotus Notes. Support for Microsoft Schedule+/Outlook and Lotus Organizer® will be available soon.

Mobile Application Builder with Database Access

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River Run's family of remote enterprise access software products support all versions of PC Companions running all versions of the Windows CE operating system. *Mail on the Run!* also runs on Windows 95 laptops for wireless remote access to LAN-based e-mail systems.

Flexible communication options are a major advantage of River Run's mobile solutions product family. You can access your e-mail, calendar and corporate data directly and over wireline as well as wireless networks.

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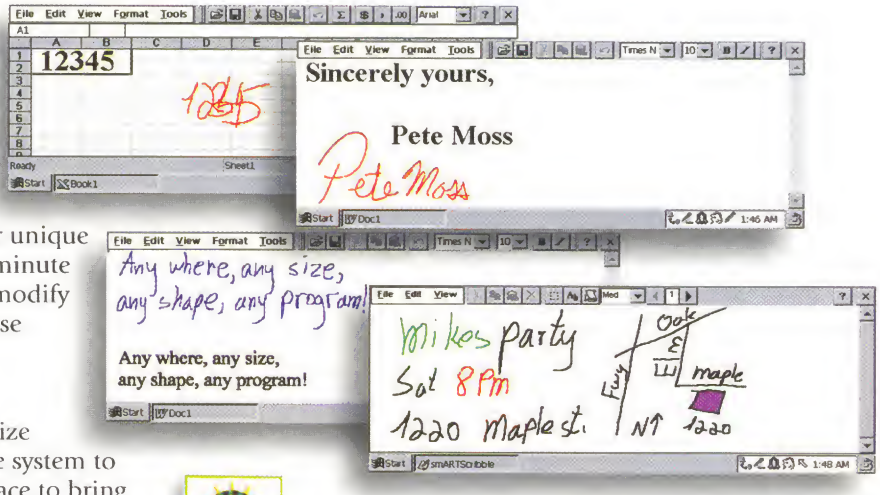

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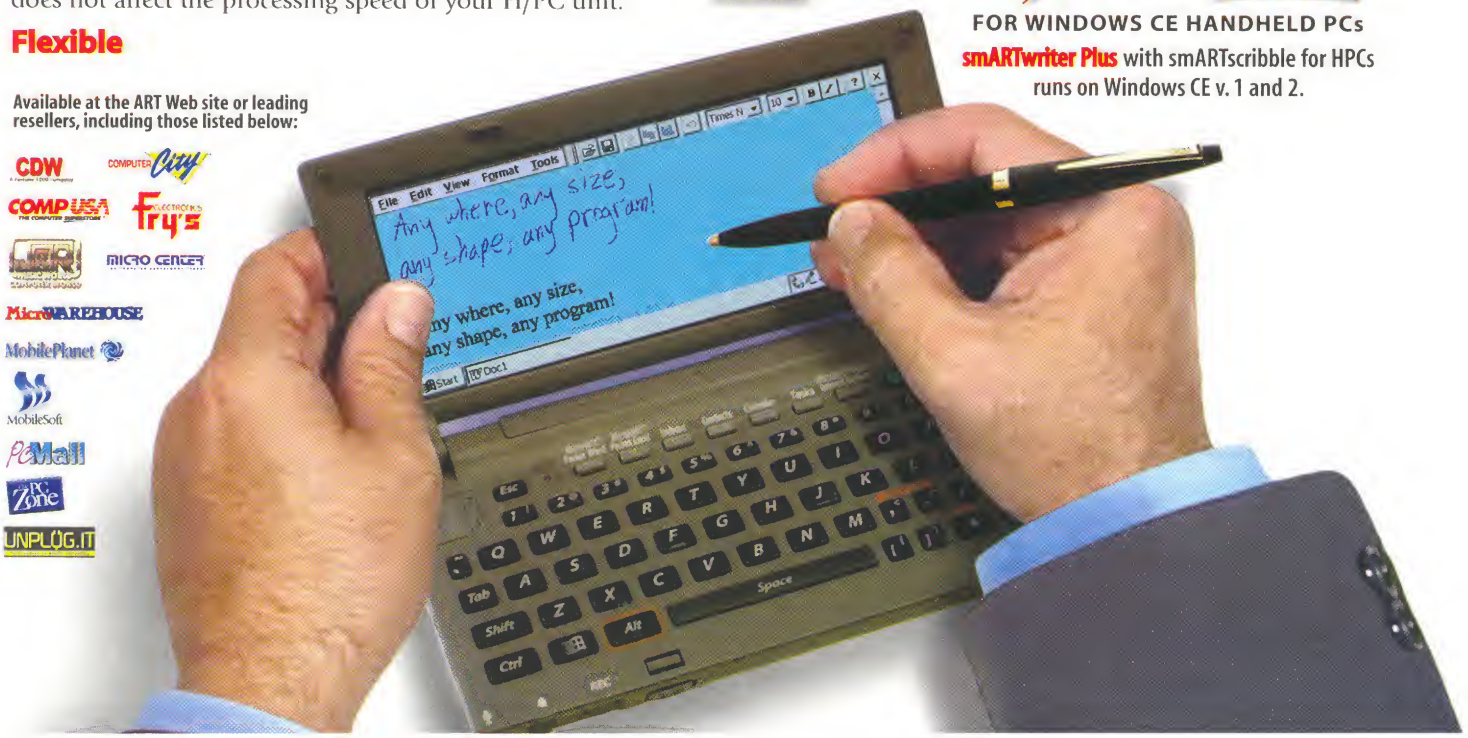

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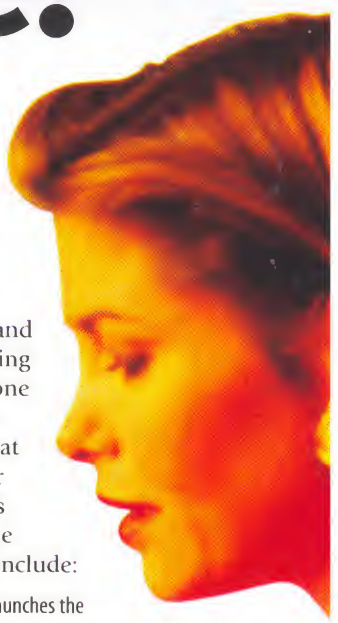

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ART's award-winning **smARTwriter**® softr text and data using your own printed handwriting. Forget struggling to learn how to write with graffiti characters. Your Palm-size PC will learn your writing in just a few minutes.

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It works with any application. Write any size, anywhere on the screen either upright (portrait) or flat (landscape).

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PC MAGAZINE
WINNER
Golden Gavel Award
June 25, 1998

Use Your Voice to Operate Your Palm-size PC

Fast, accurate voice recognition saves time and increases your productivity. No more scrolling down lists for files, contact names, and phone numbers-just tell your palm-sized PC what you want to do! You can choose from a great collection of commands already built in, or easily create your own library of commands trained to recognize your voice! Some of the incredibly time-saving commands built in include:

- **Open** + a document or note filename to open that document
- **Goto** + an application name to launch that application.
- **Dial** + contact name from your address book to dial a phone number via DTMF tones. Supports multiple numbers.
- **Email** + contact name opens and addresses a new email form.
- **Fax** creates and addresses a new fax form. (Requires bFax Express).
- **Voice Mail** Include a voice message that will be attached to an email.
- **Show Details** + contact name to display the complete contact record in the address book.
- **Get Mail** Launches the Inbox, dials your email server, and checks on-line for new messages.
- **Calendars** launches the Calendar application and specify a view (day, week, month, year, today or agenda) .
- **Macro** Execute a user-defined macro. Use it to insert boiler plate text into a document (such as your complete name and address) and teach your Palm-size to work like you do!

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Handheld PC Magazine TOP 10 for Windows® CE

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FOR USERS OF Windows® CE
HANDHELD PC
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NOVEMBER/DECEMBER 1998

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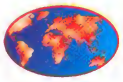

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Complete listing of this issue's advertisers along with contact information.

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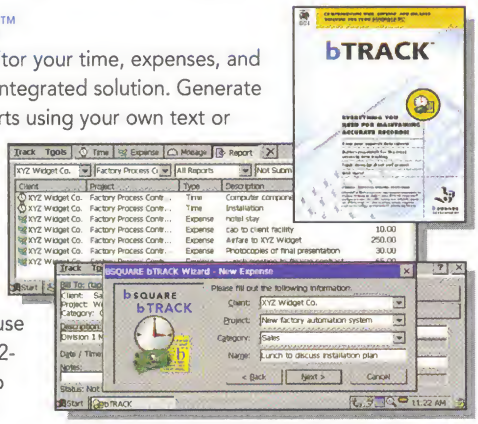

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From The Editor

Rich Hall

It's been a busy year for Windows CE.

Microsoft followed the late 1997 announcement of Windows CE 2.0 with the release of two new classes of PC Companions: the Palm-size PC and Auto PC. In addition, Microsoft has upgraded Windows CE Services, enhanced its Software Developer's Kit, and increased its support to embedded systems developers. This announces the release of Windows CE 2.1 and the H/PC Pro!

The "Handheld PC Professional Edition" is the name give by Microsoft to the new class of H/PCs using the just-released Windows CE 2.1 operating system and upgraded H/PC applications and utilities. Windows CE 2.1 will be used in more than H/PCs. It will become the operating system for embedded systems, future Palm-size PCs, Auto PCs, and mobile devices that haven't been announced yet.

In this issue we take a first look at the H/PC Professional's updated applications and three of the new H/PC Pros: the Sharp TriPad, the Sharp Mobilon Pro, and the LG Electronics Phenom Express. The description of the products and feedback given is preliminary, based on a quick look at three prototypes and information furnished by Microsoft and the manufacturers. An in-depth look at one or two of the H/PC Pros will be in the January/February 1999 issue of *Handheld PC Magazine*.

We also reviewed the Novatel Wireless Contact (an H/PC with built-in wireless modem), the LG Phenom Ultra (a large-keyboard H/PC), the Compaq C-Series H/PC, and the Sharp HC 4600. These are Windows CE 2.0 H/PCs. No word yet on whether the manufacturers will offer H/PC Pro upgrade chips for these. I'll let you know when I find out.

We also have two very interesting user profiles in this issue, showing how some very mobile PC Companion users keep up with the world. John Kennedy uses his H/PC's infrared port to interface with an Ericsson mobile phone and communicate with the world. Craig Peacock uses an H/PC and Palm-size PC on the go in London.

Finally, take a look at Doctor Edward Zabrek's "Ten Essentials for a Healthier H/PC," Andrew Seybold's look at wireless Packet data solutions for PC Companion users, and Tom Gibson's look at the year's top ten PC Companion Web sites.

And, of course, don't forget to take a look at over 60 new PC Companion products and services.

Like I said, it's been a busy year for Microsoft – perhaps too busy. As much as I like to see improvements in the operating system and built-in applications, I wonder if the manufacturers are having as hard a time keeping up with Microsoft as I am. LG's Phenom Ultra has only been out a short while, and now they've released the Phenom Express to compete with it. And Sharp's Mobilon HC 4600, that I finally got to review in this issue, now has the Sharp Mobilon Pro and Mobilon TriPad to contend with. Hopefully, the next release of Windows CE and the built-in applications will come late in 1999 at the earliest.

I'd like to thank everybody that has taken the time to give us feedback, positive or otherwise. If you have any ideas on how we can improve *Handheld PC Magazine*, please don't hesitate e-mailing me at editor@thaddeus.com.

Rich Hall

Windows CE HANDHELD PC MAGAZINE

November/December 1998

Increasing Your Personal Power by Expanding Your PC Companion's Potential

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NEWS Bytes

Uniden UniPro PC100 ships in September

Uniden has announced that its Palm-size PC will ship in late September, and will be priced at $379. The UniPro will come with an internal 28.8 modem, a high resolution screen (240x320, .24mm). It will ship with 4 MB of RAM memory, but will be upgradeable to 8 MB by the user. The UniPro will also ship with a docking station. The UniPro will be available through Ingram Micro and other major retail and mail order outlets. For more information, go to www.uniden.com/docs/product/prdetail.cfm?prodid=88.

Cassiopeia E-11 Palm-size PC

Casio has just released a new version of their popular Palm-size PC. The Cassiopeia E-11 will come with 8 MB of RAM built in, a Type II compatible CompactFlash slot, and an AC adapter. The E-11 will come with the following additional bonus software: Randsoft Harmony 98 synchronization software; the PalmGolf game; an Image Viewer for photos taken on Casio digital cameras; and Casio Menu. For more information, contact Casio at www.casio-usa.com/.

Lotus Organizer 5.0 to synchronize with Windows CE

Lotus Development announced the latest versions of its popular desktop PIM Organizer 5.0 will synchronize with Windows CE devices and other popular PDAs. Synchronization software for Windows CE devices will be priced at $24.95, but a free trial version of the software is available on the Organizer Web site at www.lotus.com/home.nsf/welcome/organizer.

Legend to make Palm-size PC

Chinese computer manufacturer Legend Holdings Ltd will develop and market a Palm-sized PC using a Chinese language version of Windows CE that will use an input method that will recognize Chinese characters. The device is slated to be released towards the end of this year or the first part of 1999, and will sell for 3,500 yuan ($420).

Enhancement Pack for Embedded System Toolkit

The Windows CE 2.1 Enhancement Pack for the Windows CE Embedded Toolkit should be available by the time you read this announcement. The Enhancement Pack is used by developers to create advanced embedded solutions based on the Windows CE 2.0 and 2.1 operating systems. The package includes sample device driver code, C/C++ cross-compilers, and assemblers to write device drivers for target platforms. Also included is sample application code, downloading and remote debugging tools.

Current users of the Windows CE Embedded Toolkit can get the Enhancement Pack for $14.95. New versions of the Windows CE Embedded Toolkit for Visual C++ 5.0, retailing for $499, will have the Enhancement Pack included. A list of distributors and resellers of these products is available at www.microsoft.com/windowsce/embedded/referrals/etk.asp.

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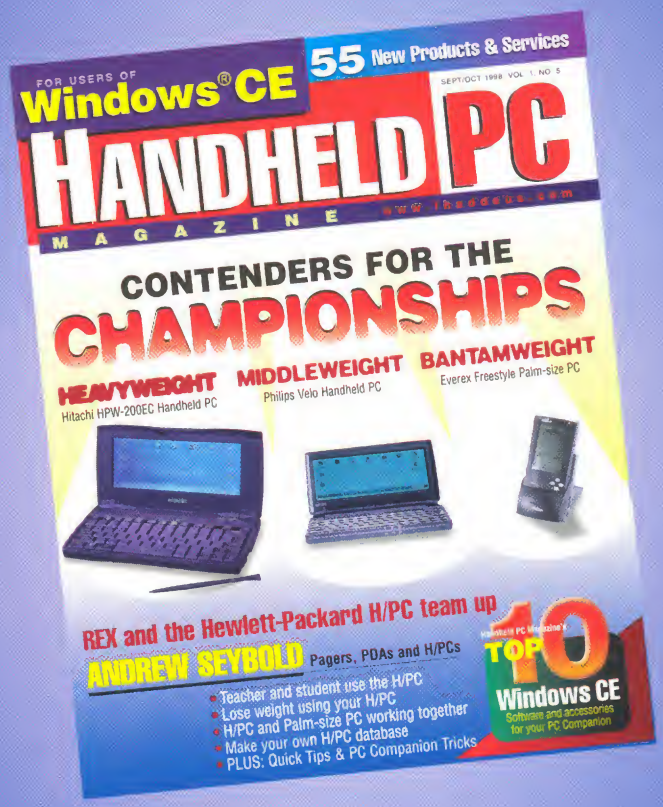
at the amount of useful, high quality content, and the range of reviewed and advertised products for Windows CE"

—Toby Lawrence



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NEWS Bytes

Clarion Auto PC in final beta testing – should ship in October/November

After delays to fine-tune the device, Clarion will be the first manufacturer to ship an Auto PC. The device will be available from authorized Clarion dealers for $1,299. Please see page 45 of this issue's At A Glance section for a complete product description and contact information.

Microsoft and Thomson Multimedia to develop "Enhanced TVs"

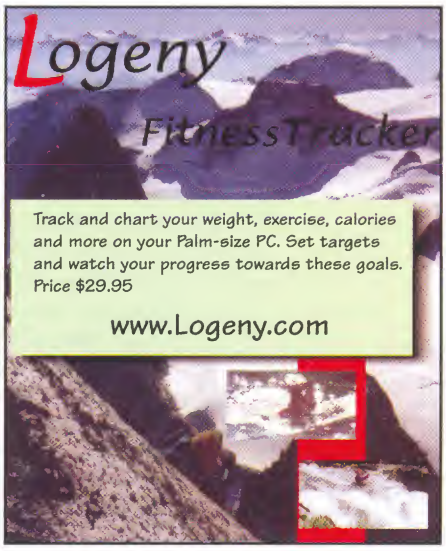
Microsoft Corp. and Thomson Multimedia have agreed to join forces in developing and promoting interactive and enhanced television products and services, and to accelerate the adoption of digital television worldwide. "Enhanced televisions" (eTVs) will feature an electronic program guide, support for interactive television programs and an integrated TV receiver, in both analog and digital versions. The integrated receivers will give consumers the kind of interactivity that today is available only through set-top boxes. Microsoft will provide HTML-rendering technologies based on the Microsoft Windows CE operating system for use in the eTVs. Thomson will license and sell WebTV set-top boxes under its RCA brand in the United States and the Thomson brand in Europe.

The two companies plan to collaborate on products and services related to the future of television with a common U.S.-based team. One focus of this effort will be the development of products and services for digital television that combine WebTV technologies with Thomson technologies for satellite and cable operators.

Pocket Maximizer 5.0 for Palm-size PC in development

Multiactive Software Inc. (formerly Maximizer Technologies, Inc.) is in the process of developing a version of its popular information manager, Pocket Maximizer 5.0, for the Palm-size PC. Maximizer is an Explorer-style organizer that shows connections between companies, people, and the tasks, appointments, and notes associated with them. In addition to name, address, phone, personal, and Internet information about contacts, Pocket Maximizer users have access to user-defined fields. Pocket Maximizer 5.0 shares many features with Maximizer, the Windows 95/98/NT desktop contact manager.

Multiactive Software is looking for beta testers for the Palm-size PC version of Pocket Maximizer. If you own a Palm-size PC and are interested, please email your name, address, phone and fax numbers to betas@multiactive.com. For further information, contact Multiactive Software; Phone: 800-804-6299; Fax: 604-601-8188; E-mail: sales@maximizer.com; Web: www.maximizer.com.



Handheld

New Software! New Hardware!

Microsoft unveils Windows CE 2.1 and Handheld PC Professional Edition

By Rich Hall and Chris De Herrera

On October 12 Microsoft announced the release of Windows CE 2.1 for the Handheld PC Professional. Simultaneously, at least one manufacturer, Sharp Electronics, announced the release of the TriPad, a new "Handheld PC Professional Edition" using the Windows CE 2.1 operating system and an enhanced set of built-in applications. Hewlett-Packard and Vadem are expected to ship Handheld PC Pros in limited quantity before the end of the year. Acer, IBM, Compaq, NEC, Fujitsu, and other manufacturers are expected to release H/PC Pros in 1999.

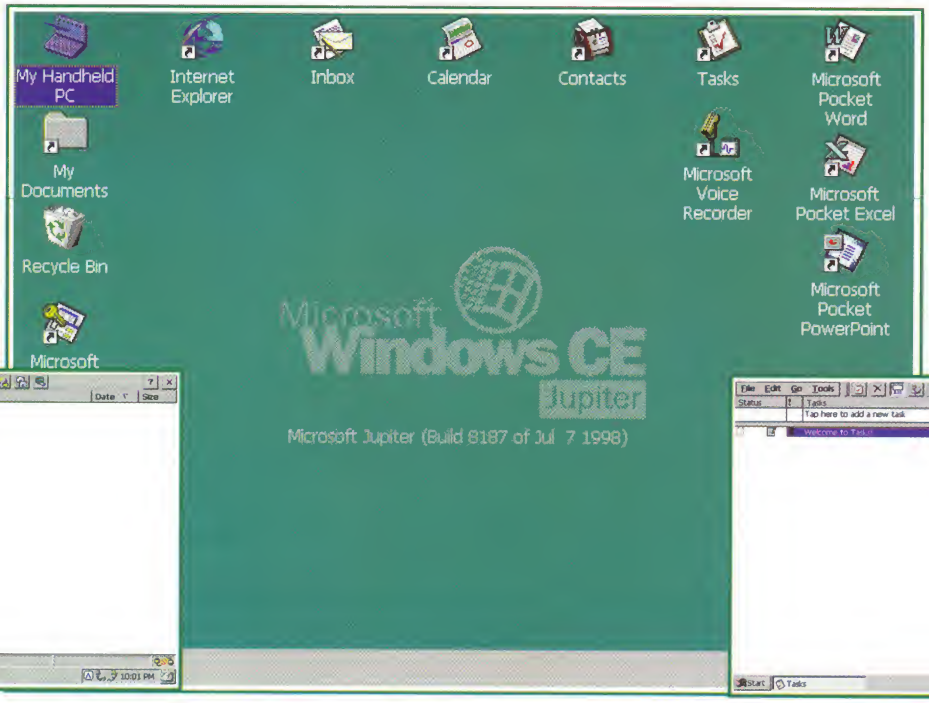
Windows CE 2.1 is the operating system that Microsoft is releasing. Microsoft released the operating system to PC Companion manufacturers and embedded systems developers in September. Handheld PC Pro (H/PC Pro) is the term that refers to Handheld PCs running Windows CE 2.1 and the enhanced set of H/PC applications. Although the first H/PC Pros to be released are the size of a mini-notebook computer, H/PC Pros may come in smaller form factors. Various manufacturers will make decisions on what form factors will be offered.

Microsoft is sticking to its "PC companion" philosophy with the H/PC Pro. My use of the term "mini-notebook" in the above paragraph does not mean that these devices have the full range of notebook PC capabilities. Microsoft has worked to make the H/PC Pro a more talented companion, with improvements to the operating system, the built-in "Pocket" applications, and Windows CE Services. But it is not a Windows 95 or Windows NT machine.

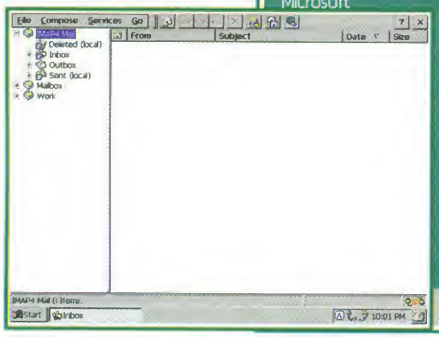
Windows CE 2.1 operating system enhancements

Microsoft is adding support for additional CPU processors, including the ARM 720T, DEC SA-1100, NEC VR4111 (Mips R4000) (in 32-bit mode), NEC VR4300

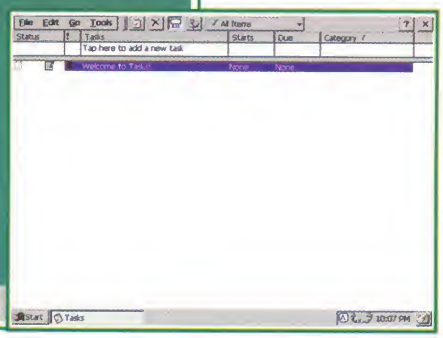
PC Pro!



In addition to the 640x240 color and gray-scale display, Windows CE 2.1 now supports 640x480 and 800x600 displays. The desktop of an H/PC Pro with a 640x480 display is shown here.



Screen 1: Windows CE users can create "offline folders," allowing them to store and organize e-mail messages in folders.



Screen 2: The H/PC Pro's Tasks application comes with a new "quick edit" view, making it easier to access and enter Tasks.

(Mips R4000), and Hitachi SH4. Windows CE 2.1 also lets you store databases, registry files, fonts, and device drivers in RAM, PC flash memory cards, or anywhere in the file system. The database is accessed and updated in place (where the customer located it). The registry is accessed and updated in RAM. Windows CE 2.1 will be localized in World-Wide English (WWE), Japanese, German, French, Italian, Spanish, Brazilian Portuguese. A technical description of the changes in Windows CE 2.1 is available on Microsoft' Windows CE Web site, at www.microsoft.com/windowsce/embedded/techpapers/wce21/default.asp.

Inbox (e-mail) enhancements

Windows CE 2.1 adds IMAP4 support, enabling mobile users to connect with Microsoft Exchange and Lotus Domino servers. In addition, Windows CE users can create "offline folders," allowing them to store and organize e-mail messages in folders (see Screen 1). Windows CE 2.1 now includes the ability to open documents saved in desktop Word and Excel formats, and save Pocket Word and Excel documents in those formats, making it easier to send and receive document attachments. Also, the folders for the Inbox can be stored on a storage card allowing users to receive larger messages and attachments.

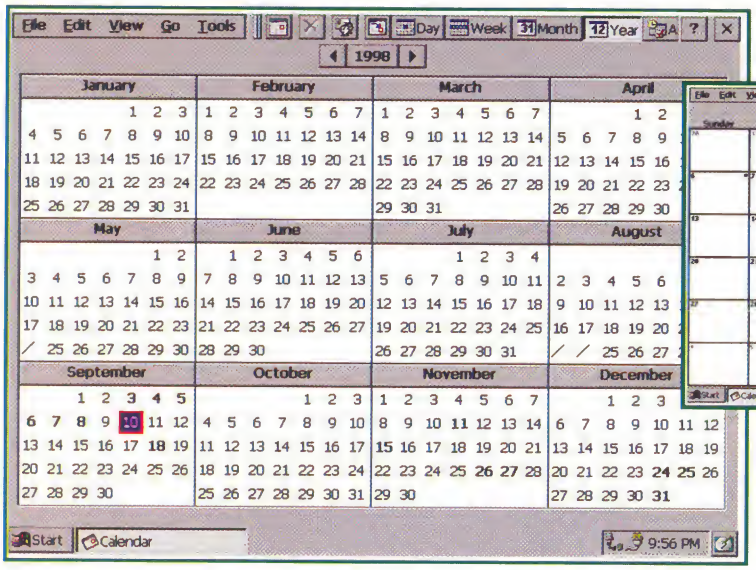
Applications: enhancements and additions

• **Tasks** — Comes with a new "quick edit" view, making it easier to access and enter Tasks (see Screen 2).

• **Calendar** — Now has month and year views, making it easier to set future appointments and navigate. In addition, you can now access the quick-edit view of your Task list from the Calendar's day view (see Screens 3 & 4).

• **Contacts** — Now comes with "Dynamically generated tabs" that adjust based on the number of contacts you have for a specific letter. This makes it easier to go to a specific contact.

• **Pocket Word and Excel** — As mentioned, file read/write capabilities for Office



Screens 3 & 4: Calendar now has month and year views, making it easier to set future appointments and navigate.

Upgrading to Windows CE 2.1

The LG Phenom Express will be upgradeable to Windows CE 2.1 and the associated Handheld PC Pro applications. We understand that Hewlett-Packard will make an upgrade chip available to its 620LX and 660LX users, but have not been able to confirm this with HP. We will publish additional information as it becomes available.

97 file formats have been added to Pocket Word and Excel. You can now open documents formatted in desktop PC versions of Word and Excel. Likewise, you can save documents you create in these formats, making it easier to send them as attachments to a colleague (see Screen 5).

• **Pocket PowerPoint** — Supports editable slide notes, but no further changes.

• **Pocket Access** — A new, and much-needed built-in database application for the H/PC (see Screen 6). This Pocket version of Microsoft's desktop database program will let users create and maintain simple, custom databases on the H/PC. Users will be able to synchronize these databases with the desktop version of Access. In addition, Windows CE 2.1 supports Microsoft's Active Data Objects (ADO), allowing developers and organizations to create H/PC Pro applications that can be synchronized with enterprise-wide databases.

• **InkWriter** — Palm-size PC users liked the ability to create handwritten notes, draw maps, and make sketches, so Microsoft ported it over to the H/PC Pro.

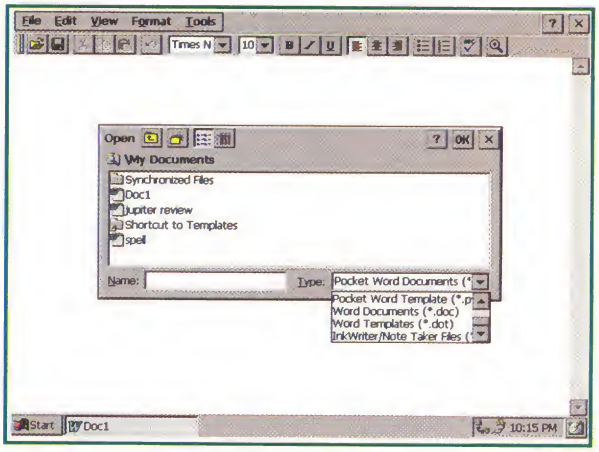
• **Pocket Internet Explorer** — Adds HTML 3.2 and Jscript (not Java) support. Windows CE users will be able to view more Web sites from their H/PC Pro.

• **Network** — You can now connect to your Microsoft network via Ethernet. The drivers and the client are built in.

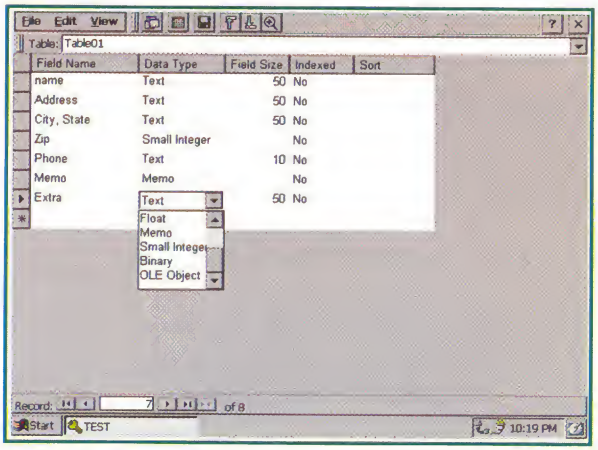
• **Printing** — You can now print from Pocket Word, Excel and Access. Printing supports PCL laser printers as well as PCL Inkjet printers. You can also print in color or black and white to the serial port, IrDA or network.

• **Toolbars** — Each application has a toolbar that the user can move below the menus so they can access all the buttons.

• **Voice Recorder** — The voice recorder from the Handheld PC and Palm-size PC has been ported to the H/PC Pro as well.



Screen 5: File read/write capabilities for Office 97 file formats have been added to Pocket Word and Excel. You can now open documents formatted in desktop PC versions of Word and Excel. Likewise, you can save documents you create in these formats.



Screen 6: The new Pocket Access application adds a much-needed built-in database application for the H/PC.

Windows CE Services 2.2 enhancements.

This is the next release of the program that is installed on your desktop PC and lets you communicate with your Windows CE device. Microsoft just happened to release it at the same time they released the Windows CE 2.1 operating system. Features include synchronizing Access databases as

FREESTYLE

EVEREX

"PalmPilot, beware."

- The Baltimore Sun

*There really is no comparison. With the Freestyle PC Companion, we at Everex have officially raised the bar for Palm-size computing to a new level of power and flexibility. Powered by Microsoft Windows® CE, and featuring instant desktop synchronization, a unique vibrating alarm, optional 33.6 Fax / Modem, and nearly limitless storage capabilities, the Freestyle provides the tools to manage your information and stay current. Take a voice note, jot down an appointment in your own handwriting, and check your email on the run - **with the Freestyle, it's easy to be connected, and stay connected.***

	Everex Freestyle™	Palm III™
Operating System	Windows CE 2.0 - familiar Windows interface which is instantly recognizable to Windows 95 / 98 users and provides seamless desktop integration	Palm OS
Screen Resolution	240 x 320 pixels per inch	160 x 160 pixels per inch
RAM	4 / 8 MB (Upgradable)	2 MB
Backlight	Yes	Yes
One-handed Navigation	Yes	No
CompactFlash Slot	Yes - support for Memory cards (up to 48 MB) Wireless communication Bar Coding, etc	No
Voice Recorder	Yes	No
Infrared Port	Yes - industry standard IRdA Port allows Freestyle to "beam" info to any device (notebook computer, network printer, Ior PDA) equipped with standard IRdA	Yes - but proprietary IRdA allows you to communicate only with another Palm III
Vibrating Alarm	Yes - allows for silent notification of appointments	No
Digital Ink Recognition	Yes - allows you to store notes and drawings in your own handwriting.	No
MobileCradle	Yes - a foldable cradle that provides an additional battery compartment for the Freestyle while traveling.	No
Integrated 33.6 Fax / Modem	Yes - housed in the MobileCradle on the Freestyle Executive	No

Feature for feature, the Everex Freestyle is the most powerful Palm-size PC available, putting the power and flexibility of Microsoft Windows CE in the palm of your hand. And now, when you purchase an Everex Freestyle Manager or Executive model between **October 15th and November 30th, 1998**, you are eligible for a $50.00 rebate from Everex. Simply send us your old PalmPilot™ along with the form below, and Everex will send you $50.00.

Powered by Microsoft® Windows CE

It's that simple.

But act quickly - this is a limited time offer.

$50.00 rebate

Please complete and attach sales receipt along with any model PalmPilot and return to Everex by November 30, 1998.

First Name:
Last Name:
Address:
City: **State:** **Zip:**
Phone: **email:**
Product Serial Number:
Purchase Date:

By signing below, I certify that I have read and understand the Terms and Conditions in this form, and that the information I've provided is true and correct.

Signature: **Date:**

Purchase an Everex Freestyle Manager or Executive Palm-size PC and be eligible to receive a $50.00 end-user rebate.

Everex Freestyle Manager and Executive PalmPilot Rebate Terms and Conditions

1. Complete rebate form, including product serial number, and your signature, and attach sales receipt
2. Please send all rebate requests including completed forms and any model PalmPilot to: Everex Systems, CE Division, Attn: PalmPilot, 5020 Brandin Ct., Fremont, CA 94538
3. Rebate good only on products purchased between 10/15/98 and 11/30/98
4. Rebate forms must be postmarked by December 05, 1998
5. Offer valid to end-user customers only
6. Void where prohibited, taxed, or restricted by law
7. Falsification of information will void this offer
8. Giveaway will not be processed without original sales receipt, a returned PalmPilot, and product serial number
9. Everex is not responsible for lost, late or misdirected mail; incomplete or illegible claims will not be processed
10. Offer valid in US &Canada only
11. Allow 8 - 10 weeks for delivery of rebate; for questions concerning status of your rebate, and if the 8 -10 weeks allowed for delivery have passed, please call 1-877-4-PALM-PC
12. Please make a copy of the completed rebate form and sales receipt to retain for your records

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WIN 100 Windows Magazine 1998

1998 CRN Labs Editor's Choice

PC Week Best of Comdex Winner

Byte Best of Show Finalist Comdex

well as a silent mode for synchronization when it starts. In addition, it enables remote deployment options, making it possible for an enterprise to remotely install it on a number of desktops.

More choices for developers and users

In addition to the 640x240 color and gray-scale display, Windows CE 2.1 now supports 640x480 and 800x600 displays. In addition to touch screens, it now supports trackpoint and glidepad input devices. And in addition to PC Card and CompactFlash cards (including CompactFlash I/O), it now supports Universal Serial Bus (USB) and Fast IR devices.

All this should encourage the development of a wide variety of mobile consumer devices. But enterprise computing is where the big demand for mobile computing devices is. I expect that Microsoft listened carefully to feedback from users of Windows CE 2.0 devices, especially enterprise users. The new set of features; especially support of larger displays, enhanced communications capabilities, and Pocket Access; make Windows CE a more attractive solution for enterprises trying to limit the cost and complexity of mobile computing. ■

Sharp Mobilon Handheld PC Pros

Sharp has just announced the release of two new H/PC Pros: The Mobilon TriPad and the Mobilon Pro. Both H/PC Pros come with the Windows CE 2.1 operating system and built-in Handheld PC Pro applications mentioned in the preceding article. We were unable to get test units for this issue, so simple descriptions (based on information furnished by Sharp) will have to do.

Mobilon TriPad PV-6000

Sharp Mobilon TriPad PV-6000 series

The TriPad comes with a full 9.4", 640x480 backlit, color touch screen, and the largest keyboard of any H/PC (87% the size of a full notebook computer, according to company literature). It comes with a MIPS processor and 16 MB EDO RAM standard (upgradable to 32 MB). The TriPad's I/O options include a Type II PC card Slot, a 115 Kbps serial port, a 4 Mbps IrDA infrared port, and a built-in, low-power 33.6 Kbps modem with RJ-11 port. The TriPad is powered by a Lithium Ion rechargeable battery pack that gives up to 16 of use between chargings (again, according to company specifications). The TriPad measures 11.3 x 8.9 x 1.0 inches (28.7 x 22.6 x 2.5 cm) and weighs 3.2 lbs. (1.45 kg) with battery. The TriPad will come with a "mini-docking station" for recharging, connecting to and synchronizing with a desktop PC.

Three modes of operation

One of the things that sets it apart from existing H/PC is its "tri-mode hinge" design, which lets you use the TriPad in different ways. You can type away on it, like a small but traditional notebook computer. But you can also fold the screen back over the keyboard and use it as a pen-only tablet for taking notes and accessing schedule, contact information, and more. Finally, you twist it around another way and use it as a "presentation easel" to display Pocket Powerpoint presentations.

Mobilon Pro PV 5000

Sharp Mobilon Pro PV 5000 series

This H/PC Pro comes in a more traditional clamshell design, but still sports a large 640x480 color backlit touch screen (slightly smaller than the TriPad at 8.2" diagonal). The Mobilon Pro measures 9.3 x 7.9 x 1.4 inches (23.6 x 20.1 x 3.6 cm) and weights 2.6 lbs. (1.2 kg) with a battery that powers the unit up to 12 hours between charges. Sharp's Digital Camera Card will work with the Mobilon Pro, but not with the TriPad. Other than these differences, the specifications are similar to those of the TriPad.

Common features

As I mentioned above, both units come with Windows CE 2.1 and H/PC Pro applications built in. In addition, both come with the bundled software mentioned in the Sharp Mobilon HC 4600 review, on page xx of this issue.

I took a look at a prototype of the TriPad at last year's PC EXPO show, and liked the three different positions of the unit. The arrangement looks flimsy at first glance, but the prototype seemed sturdy enough. Expect a more thorough review as soon as I get my hands on one.

Both the TriPad and Mobilon Pro will have a suggested retail price of $999. They will be available to consumers in mid to late October. For more information, contact your local Sharp dealer, phone Sharp at 800-237-4277, or visit Sharp's Web site at www.sharp-usa.com.

Contact ...a Wireless H/PC!

The Contact from Novatel Wireless comes with everything you need to send and receive e-mail and browse the Web wirelessly.

By Chris De Herrera, *PDCChrisD@Aol.com*

All Handheld PCs come with built-in, or add-on modem capability. This is supposed to make it easy to keep up with e-mail and other online activity. But you still have to stop, find a telephone, pull out a cable, connect the H/PC to the phone, log on to your ISP or network, and download your e-mail - not really "information on the go." Mobile users want to be able to reach in their pocket, check their e-mail, tap out a quick response, send it and forget about it. And they want to do this wherever they are, without stopping to find a phone.

Wireless communication is the obvious solution, but until recently it has involved a confusing combination of wireless transmitter/receivers, software, and wireless services. This review looks at the Contact H/PC from Novatel Wireless, the first H/PC with a complete wireless solution built-in and ready to go. The Contact (priced at $995.95) is a modified LG Phenom. Added to this standard Windows CE 2.0 H/PC are all the hardware and software needed to connect wirelessly to a CDPD (cellar digital packet data) network. CDPD service is available for most of the United States and Contact ships with the Wireless Subscription Wizard to make finding and subscribing to such a service easy. This review focuses on using the wireless CDPD modem and services, but a brief description of the basic Windows CE hardware and software features follows.

The Novatel Wireless Contact H/PC

As mentioned, Contact's hardware is based on the LG Electronics Phenom H/PC (the regular Phenom, not the Phenom Ultra or Phenom Express mentioned in this issue). Contact is 1/2 inch wider than the Phenom to accommodate the built-in modem, and at 22 ounces weighs 5 ounces more than the Phenom. Contact comes with 16 MB or ROM and 8 MB or RAM (expandable to 32 MB). It has a 640 x 240 pixel backlit touch screen. The screen is monochrome as opposed to color, to conserve battery power. Contact is powered by a 780 mAh Lithium Ion Battery and comes with an AC Adapter for powering the unit and charging the battery.

The built-in Wireless IP Modem is CDPD Version 1.1 compliant with a 19.2 Kbps data rate and 0.6 watts transmit power. Contact also comes with a built-in wireline Fax/Modem (and RJ-11 modem jack). It operates at 14.4 Kbps for data, and a 9.6 Kbps for fax. The Contact has one Type II PC Card slot, a combination serial/VGA port (VGA cable is available as an option), an IrDA infrared port, built-in speaker and microphone.

Contact is a Windows CE 2.0 H/PC with all the standard built-in applications, including Calendar, Contacts, Tasks, Pocket Word, Pocket Excel, Pocket PowerPoint, Voice Recorder, and various utilities. In addition

ABOUT THE AUTHOR

Chris De Herrera is a Forum Consultant for America Online's Windows CE Forum. He is also a Microsoft Most Valuable Professional for Windows CE. The AOL Windows CE forum is accessible via the keyword "Windows CE."

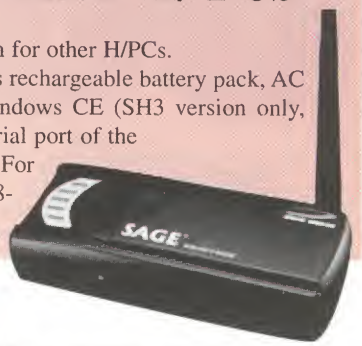
to these Windows CE standard applications, Contact comes with Wireless Modem Manager , Wireless Subscription Wizard, and Wireless Modem Status. The package also includes two general communications utilities: bFax and bView (from bSquare Technologies, Web: www.bsquare.com).

Getting started with CDPD

Contact comes with the necessary CDPD software already loaded. All you need to do is contact a CDPD provider, set up and activate an account, and you're ready to go. The built-in Wireless Subscription Wizard helps you do this. CDPD service is generally available in areas where analog cellular service (AMPS) is available. ATT Wireless and Bell Atlantic offer CDPD service in the United States. For coverage maps and additional information, visit the CDPD Web site at www.cdpd.org. (Note that most major cities in the United States have CDPD service, but Los Angeles and Atlanta do not.) Besides selecting the carrier you should also select a mail/Internet service. Go America offers a bundle providing access service and unlimited e-mail for $59.95/month. For more information, call 888-462-4600 ext 1 or visit their Web site at: www.goamerica.net. Once you contact the vendor of your choice, it can take from 4 to 72 hours to enable your service. During that time you can configure the Contact to connect using the built-in Wireless Subscription Wizard. This utility configures your connection for you.

Wireless modem for other H/PCs

Novatel Wireless also offers a wireless modem solution for other H/PCs. Sage is a compact CDPD wireless modem that includes rechargeable battery pack, AC adapter and software for Windows NT/95/98 and Windows CE (SH3 version only, MIPs version in development). Sage attaches to the serial port of the H/PC via cable and acts like a standard AT modem. For more information, contact Novatel Wireless (Phone: 888-888-9231 Web: www.novatelwireless.com/).



Sage CDPD wireless modem: $419

Once your CDPD service is enabled, you can connect to the wireless network automatically by simply checking your e-mail. This is done by connecting to your service provider's e-mail service that is listed in the Inbox. If you want to browse the net without checking your e-mail, you must first bring up the wireless status screen, provide the password and log on. Then you can go to Pocket Internet Explorer and check out your favorite Web sites. But remember that the built-in wireless CDPD modem is only rated at 19.2 Kbps (and you'll probably experience speeds more on the order of 14.4 Kbps). The wireless connection is not terribly fast and downloading graphics can slow down your browsing. I recommend that you turn off graphics to speed up communication.

Just like any other modem

Once you connect to the CDPD wireless network, Contact works like an H/PC connected via any landline modem. Use Inbox to send and receive e-mail. Use Pocket Internet Explorer to browse the net. And use the bFax utility that comes with Contact to send and receive faxes. Contact, with a fully-charged Lithium Ion battery, will run for about 10 hours without using the modem. It will run for about two hours with continuous CDPD modem use. To conserve battery power, leave the CDPD modem turned off most of the time when not being used. Go easy on using the backlighting; it increases battery consumption 10-15 times normal. Finally, plug-in the AC adapter/-charger whenever you get a chance.

Contact is a good solution for Mobile users that need to access e-mail and the Internet wherever they are, without stopping to look for a phone. The hardware and software are all in one package and it's simple to sign up for a CDPD service. You can be online and in touch in your car, at a client's office, and at the grocery store. You pay more in monthly service charges, but your e-mail is always in your pocket, waiting for you, wherever you are. ■

Novatel Wireless Contact H/PC — $995.95
Accessories: 110V/240V AC Adapter $129.95; Lithium Ion Battery $89.95; Stylus Pens (3 pack) $14.95; VGA Cable $69.95; 16MB RAM $149.95; 32MB RAM $299.95; Car Adapter $59.95; Leather Case $ 69.95.
Sales contact: MobilePlanet
Phone: 800-MPLANET
Web: www.mobileplanet.com
Developer contact: Novatel Wireless
Phone: 888-888-9231
Web: www.novatelwireless.com/

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LG's Phenom Ultra

Joins the

Mini-Notebook Trend

By Rich Hall

This is the third time in as many issues of *Handheld PC Magazine* that we have reviewed an H/PC with a large, touch-typeable keyboard. I'm beginning to suspect that a trend is developing. This time I'm looking at the LG Electronics Phenom Ultra. As with the NEC MobilePro 750C (see page 6, Jul/Aug 98) and the Hitachi HPW-200 EC (see page 9, Sep/Oct 98), this attractive, black unit looks more like a mini-notebook computer than the Handheld PC we started writing about 20 months ago.

Hitachi manufactured this H/PC for LG and the Phenom Ultra is almost identical to the Hitachi HPW-200EC reviewed in last issue. Take a look at the sidebar on page 18 for a basic description of the Phenom Ultra.

The Phenom Ultra has a keyboard that, while small compared to standard notebook computers, is luxuriously large by H/PC standards. Most people will be able to touch type easily on the Phenom Ultra's keyboard. In fact, once you get used to the closer spacing of the keys, you discover that you don't have as far to reach to strike a key. I type as fast or faster on these large-keyboard H/PCs as I do on my desktop.

The Phenom Ultra (and the Hitachi HPW-200EC) has the largest display of any H/PC. Like many other H/PCs, it has a horizontal, 640x240 pixels color touch-screen. But the diagonal measurement of its color screen is 8 inches (21 cm). This is a quarter of an inch (0.64 cm) larger than the NEC MobilePro and 1 to 2 inches (3.8 to 5 cm) larger than the screens on most other H/PCs. The size makes the screen quite easy to read, especially if you adjust the brightness and contrast properly and keep it out of direct sunlight. *[Tip: Hold down the Alt key and press the Quick Launch keys on the top row of the keyboard to adjust the contrast and brightness.]*

The Phenom Ultra comes with a nice set of bonus software (see sidebar, page 18). The Citrix ICA Client lets you use the Phenom Ultra to access a Winframe network and run full-blown network applications on the Phenom. This should be especially popular with corporate clients. Another interesting looking piece of software was the MobileCHOICE application suite. Coupled with a wireless modem and messaging service, this lets you send and receive e-mail without having to connect up to a phone line.

A "Handheld" PC?

The trend with Windows CE is towards bigger keyboards and screens. Take a look at the review of the new Handheld PC Pro on page 10 for the latest example of this trend. True, it's easier to type on these devices, and the screens are easier to read. And battery life, while shorter than the monochrome screen handhelds and Palm-size PCs, is still acceptable for off-and-on use, away from an AC adapter. But we're starting to seriously

RxPhenom Ultra

A version of the Phenom Ultra customized for healthcare professionals is available from Pygmy Computer Systems, Inc. It consists of the Phenom Ultra described in this review, along with three medical software programs.

LexiDrugs98 — a drug database with over 1,000 referenced monographs covering 5,000+ drugs in use in the United States, Mexico and Canada.

Archimedes/CE — Medical calculator with reference to over 70 preprogrammed equations in medical specialties such as Cardiology, Pharmacology, Pediatrics, Critical Care and General Internal Medicine.

Outlines in Clinical Medicine (OCM) — A web-based program offering a medical database of over 700 outlines covering general internal medicine and related fields.

In addition, RxPhenom Ultra comes with SmARTwriter, a handwriting recognition program that lets you input notes using your own handwriting style.

We have not reviewed this product yet.

The Rx Phenom Ultra is priced at $2,495.95. For more information contact: Pygmy Computer Systems; Phone: 800-447-9469 or 305-253-1212; Fax: 305-255-1876; E-mail: sales@pygmy.com; Web: www.rxphenom.com/rxphenom.htm

LG Phenom Ultra: Here's What You Get!

The LG Electronics Phenom Ultra has an 8 inch (21 cm) diagonal color touch-screen display, a 100 MHz Hitachi SH3 CPU, 16 MB of internal RAM (expandable to 32 MB), 12 MB of upgradeable ROM, and a touch-typeable 74-key keyboard. The unit comes with a built-in 33.6 kbps software modem; VGA-out port and IrDA interface; Type II PCMCIA slot; Compact Flash card slot; rechargeable Lithium-Ion battery pack (rated at 10 hours according to LG specifications); 10 quick launch keys (two are user programmable); a built-in microphone, speaker and voice recorder. The Phenom Ultra weighs 1.87 lbs (0.85 kg) with battery pack. The package includes an AC adapter; serial cable; and VGA adapter for the end of the serial cable, a modem cable, a Windows CE manual, a Phenom Ultra hardware manual, and a Pocket BizCalc manual. A CD ROM with Windows CE Services is included, along with a CD-ROM containing additional freeware, shareware, and announcements for other third party products.

The Phenom Ultra is a Windows CE 2.0 Handheld PC with all the associated features, utilities and "Pocket" applications built in. These include the Windows CE 2.0 operating system, Pocket Word, Pocket Excel, Pocket PowerPoint, Pocket Internet Explorer, and Pocket Outlook (a Handheld PC version of MS Outlook that includes Calendar, Contacts, Tasks, and Inbox).

Bonus Software Built-in

The LG Electronics Phenom Ultra has the following additional software built into its ROM. You don't have to install the software and it takes up no extra disk space, except for data files the applications create.

bFAX Professional and bVIEW — Adds fax send/receive capability to your Phenom Ultra. bVIEW lets you view faxes (and other documents) before sending them. bFAX Pro is available commercially, bVIEW is not (contact: Bsquare Technologies; Web: www.bsquare.com).

Pocket BizCalc — Adds a full-featured business/financial calculator that emulates the HP-12C calculator. Pocket BizCalc is available commercially and comes in H/PC and Palm-size PC versions (contact: Odyssey Computing Inc., Web: www. odysseyinc.com).

Pocket Finance — Lets you track deposits and withdrawals on your Phenom Ultra and will exchange account entries with Intuit's Quicken and Microsoft's Money desktop applications. The program is available commercially for H/PCs (contact LandWare, Inc; Web: www.land ware.com).

Bonus Software on CD ROM

The following programs are on the CD ROM that comes with the Phenom Ultra and have to be installed on the H/PC.

Citrix ICA Client — Lets you use the Phenom Ultra as a thin client to a Citrix Winframe Network. Users can connect the Phenom Ultra to a Winframe network to access and run full-blown network applications on the Phenom. The ICA client for Windows CE is not available directly from Citrix, but is distributed by the respective H/PC manufacturers, including LG Electronics, Sharp Electronics, Philips, and Hewlett-Packard.

Harmony 97 — Trial Version of a data synchronization program that embedded one-click synchronization between the Phenom Ultra and many desktop contact managers and PIMs by adding a menu bar inside the PIMs. Harmony '98 is now available commercially (contact: Rand Software, Web: www.randsoft.com)

Pocket Finance Administrator — Adds the Pocket Finance Administrator to your desktop PC. This lets you exchange Quicken Interchange Format (QIF) files with desktop applications such as Quicken, and Microsoft Money. See Pocket Finance contact information above.

MobileCHOICE — A mobile, wireless, and dial-up application suite. Combined with IKON's Mobility Services, and a Motorola Personal Messenger wireless modem, you can send and receive Internet e-mail wirelessly. The program and services are available commercially (contact: IKON Office Solutions, Web: www.integra.net).

Pocket On-Schedule — Trial Version of a contact manager that features unlimited contact databases, automated dialing support, Internet access from Pocket On-Schedule, direct e-mail, contact information templates, and customizable layouts. Pocket On-Schedule is available commercially (contact: Odyssey Computing Inc., Web: www.odysseyinc.com).

stretch the meaning of the word "handheld." You can still hold it in one hand, but you're better off carrying it in a briefcase or tote bag.

Handhelds seem to be growing into mini-notebook computers. They are lighter, generally less expensive, and have better battery life than Windows 95/NT notebooks. In addition, they come with the basic software and most-used applications built-in, making the total cost of ownership (operating system, additional software and upkeep by an MIS department) much less than traditional notebook PCs. I think this size H/PC has the best chance of wide corporate adoption.

Whether or not individual mobile professionals buy the newer H/PCs in great quantity depends on how powerful this H/PC is perceived to be, and how "visible" it is. Manufacturers need to promote it as an inexpensive and practical solution, and they have to push it out into the retail channel more vigorously. I don't think many users will buy a product like this sight unseen. They'll want to go to a store and look at the screen, type on the keyboard, and play with the built-in applications.

The Phenom Ultra will retail for $799, and LG has done a pretty good job of making the Phenom Ultra available. In the U.S. it's stocked at CompUSA, Computer City, Fry's and several other retailers (on the Web go to www.lgphenom.com/buy/index.htm for a list of retailers carrying the Phenom Ultra). The Phenom Ultra is also available on line at the Velo Store (Web: www.bcex press.com/lgstore/default.asp). NEC also makes their MobilePro available at CompUSA and other computer resellers. I've only seen the Hitachi H/PC available through Mobile Planet's Web site: www.mobileplan et.com.

It's not as powerful as pricier notebook PCs, and I wouldn't use it as my primary computer. But my mobile needs are relatively straightforward, and the Windows CE applications fit the bill. I might use a Palm-size PC in addition to an H/PC this size, to make sure Contact information and Calendar appointments were always with me. But I'd use the Phenom Ultra, or something like it, on the road, for e-mail, word processing, and even a little Web browsing or game playing. ■

Phenom Express

LG's new Handheld PC Pro

By Rich Hall

I just received a pre-production version of LG's newest H/PC, the Phenom Express. It came with Windows CE 2.0 and the associated applications, but LG has informed me that the Express will be upgradeable to Windows CE 2.1 when it is available.

Larger, better connectivity, longer battery life

Like the Phenom Ultra, the Phenom Express has a 100 MHz Hitachi SH3 CPU, a large touch-typeable keyboard, and a 256 color touch-screen (the 1/2 VGA screen is slightly smaller than the Phenom Ultra's). The Express is about one inch wider than the Ultra, making room for a larger triple-cell Lithium Ion rechargeable battery that powers the Express up to 12 hours between rechargings. The Express comes with 32 MB of RAM memory and has a fast 56 Kbps built-in modem. It comes with separate infrared, serial, parallel, and VGA-out ports. The Express has a single Type II PC Card slot, but does not have a CompactFlash slot. However, you can insert a Compact Flash card in an adapter, and then use it in the PC Card slot.

A newer operating system and better set of software

The Phenom Express will ship with Windows CE 2.1 and Handheld PC Pro applications as soon as they are released to manufacturers by Microsoft. The new version of Windows CE will include improved communications capabilities and a new built-in application, Pocket Access (see page 10 for more on Windows CE 2.1).

The Phenom Express will also include built-in versions of bFax Professional, bView and Pocket Finance. In addition, the Express comes with a built-in utility that lets you backup your databases to any location on the Express, including a PC memory card. You can also use the utility to restore corrupted or erased databases from the backups.

The Phenom Express comes with a limited version of Mail on the Run, which lets you download address books from supported mailing services. It also comes with an e-mail file attachment viewer, an Internet e-mail setup Wizard, and the Citrix ICA Thin Client described in the Phenom Ultra review.

First impressions

I only got to look at a pre-production Phenom Express for a few days. Unfortunately, it did not come with the new version of Windows CE. Still, I finally got to take a look at the hardware of one of the new Handheld PC Pros. I liked the keyboard and color screen, but there's nothing new there.

The Phenom Express comes with a rather large cylindrical battery compartment that makes the whole unit a little wider than the Phenom Ultra. This compartment rotates down, creating a ledge on the back of the unit and causing the keyboard to rest at a slight angle when the Express is sitting on a table. This makes it easier to type. Rotating the battery compartment down also exposing the parallel port and VGA-out ports in the back of the express. The VGA-out port is standard and does not require a special adapter cable as the port on the Phenom Ultra does. This is the first parallel port I've seen on an H/PC, although we'll probably be seeing them more often with the new Handheld PC Pro class of computers. A parallel port is a very nice addition, making it much easier for mobile users to find a spare printer when they're on the road.

LG chose to stick with the a smaller display for the Phenom Express, instead of going with the standard 640 x 480 display supported by the newest version of Windows CE. According to LG, it was to keep the unit smaller. But they're also promoting this as an ultimate on-line device. With the added width of the battery compartment, it seems that they could have slipped in a larger screen without adding to the size of the unit.

We'll review the production version of the Phenom Express, with Windows CE 2.1, when we get one. The Phenom Express should be available in the first week of October, through the same retail stores selling the Phenom Ultra. The estimated retail price is $899. LG will offer a Windows CE 2.1 upgrade chip to owners of the Phenom Ultra Windows CE 2.0 version, but they are still finalizing plans for that. LG will sell off their inventory of the Phenom Ultra and focus their efforts on the Phenom Express. However, they will continue to provide full support to Phenom Ultra owners, and will make a CE 2.1 upgrade chip available for the Ultra as well. ■

Sharp Mobilon HC-4600 H/PC

By Rich Hall

The Mobilon HC-4600 is Sharp's update of the popular HC-4500 reviewed thoroughly beginning on page 6 of the May/June 1998 issue of *Handheld PC Magazine*. Check out that review for more details. I'm going to keep this review brief, focusing on the improvements Sharp made in the unit. A brief description of the specifications can be found in the At A Glance section, on page 41.

The Sharp Mobilon HC-4600 ships with 16 MB of EDO RAM (expandable to 32 MB), and slightly more powerful batteries. Otherwise it's identical to the Mobilon HC-4500. The Mobilon HC-4600 comes with some of the same applications I liked in the first review, including:

• **Image Editor** – built into the HC-4600's ROM, this application lets you edit photos you take with the option Digital Camera Card (or any .JPG image).

• **IntelliMigrate** – installed on a desktop PC from the CD ROM, this application lets you "migrate" data from a number of different PDA formats to your Mobilon (or any H/PC). The program was developed by Puma Technologies (www.pumatech.com).

Additional software improves functionality

The big change with the HC-4600 is the additional software Sharp chose to build in and bundle with the Mobilon. These programs include:

• **bFax Pro** – installs to the HC-4600 from CD ROM and adds fax send/receive capability. Includes a utility that "spools" faxes and sends them out all at once when you connect your Mobilon to a telephone. (Developed by bSquare Technologies: www.bsquare.com).

• **PC File Viewer** – built into the Mobilon, this application lets you view common PC-formatted documents on your Mobilon (see Screen 1). View MS Word, WordPerfect, MS Excel, Lotus 1-2-3, common graphics formats, and more. (Developed for Sharp by INSO.)

• **Citrix ICA Client** – lets Mobilon users access and run desktop Windows applications remotely from their H/PC. (Developed by Citrix.)

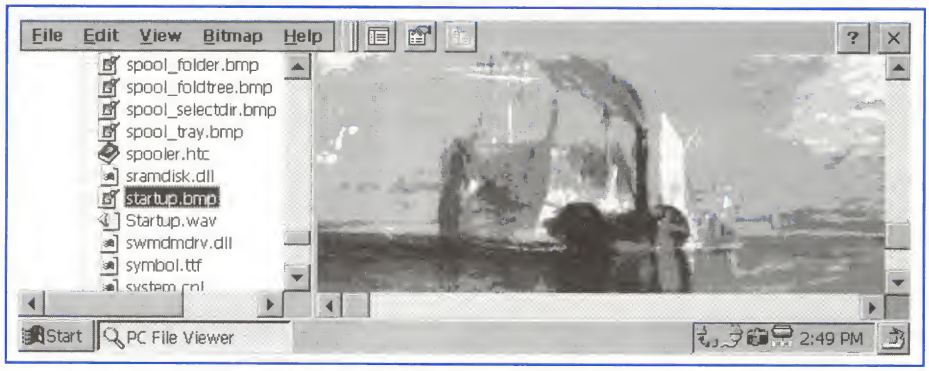
• **PhotoLink** – lets you link a .JPG, BMP, or .GIF image or photograph to a Contacts entry (see Screen 2). You can link images taken by the Sharp Digital Camera Card, or images you download from other sources. (Developed by Randsoft: www.randsoft.com.)

• **MPEG Player** – lets you play MPEG 1 format movie files (see Screen 3). The image size is fixed at 160x120 dots. You can use this application to play MPEG movies you create with the Sharp Digital Camera.

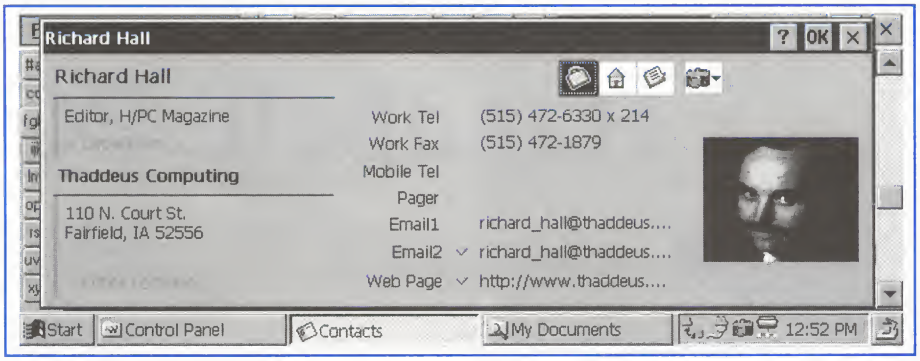
• **IR Communication utility** – lets you exchange data via infrared communications with Sharp ZR Series PDAs.

Digital Camera Card

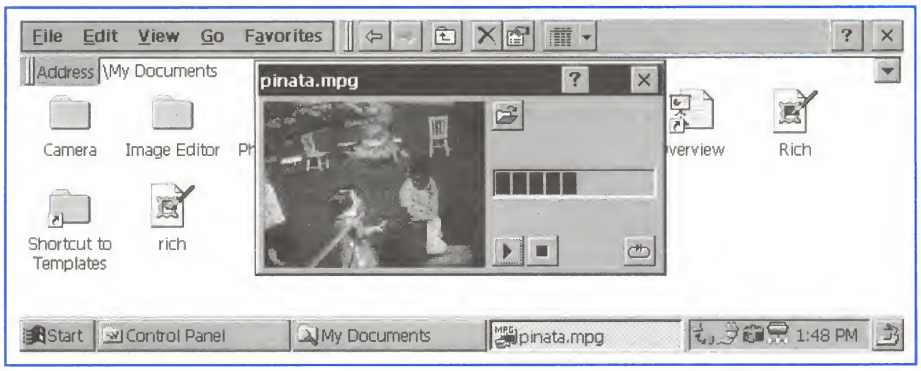
This doesn't come with the HC-4600, but slips into the Mobilon's PC Card slot and turns the HC-4600 into a digital camera that can take pictures up to 640x480 VGA display size with up to 16.7 million colors. You can adjust the size and quality of the image to reduce the size of the .JPG file. The Digital Camera Card has an optical zoom feature, and is capable of continuous shooting in manual or automatic mode (which helps create MPEG movies). The Digital



Screen 1: PC File Viewer lets you view common PC-formatted documents on your Mobilon, including MS Word, WordPerfect, MS Excel, Lotus 1-2-3, common graphics formats, and more.



Screen 2: PhotoLink lets you link a .JPG, BMP, or .GIF image or photograph to a Contacts entry.



Screen 3: MPEG Player lets you play MPEG 1 format movie files, including MPEG movies you create with the Sharp Digital Camera.

PC File Viewer is a very nice addition, making it easy to take a quick look at a large number of files and decide which ones to delete, move, etc. PhotoLink is another valuable addition. Screen 2 shows PhotoLink displaying my picture in Contacts. You could also use it to attach a photo of a house or a map to a Contact entry. I also had fun with the MPEG Player, which lets you play MPEG 1 format movie files in a fixed sized image of 160x120 dots (Screen 3).

As nice as the Mobilon is, Sharp isn't resting on its laurels. They've just announced the TriPad, using the Windows CE 2.1 operating system and the H/PC Pro built-in applications (see page 14). They'll also offer a smaller version of the H/PC Pro, which will accept the Digital Camera Card. ■

Sharp Mobilon HC-4600 – $899
Sharp Digital Camera Card – $399
Docking Station Kit – $149
Contact your local Sharp dealer or Sharp Electronics Corporation; Phone (USA): 800-BE-SHARP; Fax on demand: 630-397-8601; Web: www.sharp-usa.com

Camera Card comes with two additional applications for the Mobilon.

- **Camera** – installed from CD-ROM or disk, lets you use the Digital Camera Card available as an accessory.
- **Album** – installed from CD ROM or disk, this application lets you organize and view .JPG images on the Mobilon.

Impressions

The HC-4600 is fine as a standalone product. It's attractive, well-made, comes with a built-in modem and a lot of nice extras. It's rated at six hours of use on fully charged batteries, which is sufficient for most mobile users. But if you are away from an AC adapter for long periods of time and use the Mobilon a lot, get a spare battery pack and keep it charged. The optional docking station kit comes with a spare NiMH rechargeable battery pack that can be charged outside of the Mobilon in the docking station.

I liked the Mobilon and Digital Camera Card combination. I didn't test it to its limits, but had no problem taking 55 or so digital photos without running out of file storage space or battery life. I got over 200 when I tested the Digital Camera Card with the HC-4500, last year. I expect the performance to be similar. A spare battery pack is also advisable if you use the Digital Camera Card a lot.

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Compaq C-Series Handheld PC

By Rich Hall

The Compaq's C-Series is one of the few H/PCs that's still small enough to fit in your pocket. That fact, a sturdy construction, and a built-in modem make it a reasonable choice for mobile professionals who want to carry one portable computer with them to access data and stay in touch.

Compact's C-Series H/PCs come in monochrome (810) and color-display (2010 c) versions. Both come with a 75 MHz RISC processor, and internal 33.6 Kbps integrated modem with RJ-11 port, a serial port, PC Card slot, infrared port, speaker, and AC adapters. The monochrome-screen 810 has 8 MB of RAM and is powered by two AA alkaline batteries up to 20 hours. The color-screen 2010 C has 20 MB of RAM and is powered by a rechargeable NiMH battery pack for up to three hours. Both come with the same Windows CE 2.0 operating system and built-in applications. Both have the same set of bundled software, described below.

Bundled software

Both versions of the C-Series come with the following additional software:

- **bFax Express** – lets you send faxes from the C-Series. (Commercial version available for $29.95 from bSquare Technologies, Web: www.bsquare.com.)
- **Quicknotes** – adds a notepad that lets you enter handwritten notes, maps, sketches, etc. and organize them by date. (Commercially available for $13 from Communication Intelligence Corporation, Web: www.cic.com.)
- **Spell Checker** – lets you spell check in any Windows CE application. (Developed by Communication Intelligence Corporation, Web: www.cic.com.)
- **Pocket Carbon Copy** – lets you remotely control your desktop PC from your H/PC. (Commercial version available bundled with Carbon Copy 32 V 5.0 for $139.95, from Compaq dealers. Web: www.compaq.com.)
- **Mail on the Run** – provides you with direct and remote access to popular LAN-based e-mail systems, including Microsoft Mail®, Microsoft Exchange Server, Lotus cc:Mail, and Lotus Notes Mail. (Commercial version available for $89, from River Run Software Group, Web: www.riverrun.com).
- **All in Sync** – lets you remotely synchronize Pocket Calendar, Tasks and Contacts with their Lotus Notes calendar and scheduling data. (Commercial version available for $138, from River Run Software Group, Web: www.riverrun.com).
- **Pocket BizCalc** – a full-featured business/financial software calculator that emulates the HP-12C. Using RPN logic, it performs loan/mortgage; discounted cash flow; bond; compound interest; leasing; actuarial and markup functions; depreciation; amoritization schedule; and more. (Commercially available for $39.95, from Odyssey Computing, Inc., Web: www.odysseyinc. com.)
- **IntelliMigrate** – lets you "migrate" data from several other types of palmtops or PDAs to your H/PC. (Commercially available for $39.95 from Puma Technology, Web: www.pumatech.com.)

A quick look

I tested the color-screen 2010 c. Compaq's specification sheet indicates that it is a little larger and heavier than the monochrome-screen 810. The 2010 c has a substantial feel to it. The color display is easy to see, especially when backlit. The keys were small, round, and had a positive calculator-like feel when you pressed them. You're not likely to accidentally strike one, but you probably won't type very fast either.

I like the software Compaq chose to bundle with the 2010 c, especially the PC Card Backup and Restore utility. The biggest danger for mobile users is losing his or her data. A PC Card backup utility is very handy, especially if you spend any length of time away from the office. The Flash Manager application in the Control Panel lets you set the number of days between automatic backup.

I also liked the Spell Checker from CIC. It lets you check spelling in applications other than Pocket Word. Has a nifty macro feature that lets you enter seven-letter shortcuts for common phrases. For example, turn on the macro feature and type in "CIC" and the words Communications Intelligence Corporation" are automatically typed in. This feature comes in handy on any H/PC, but particularly an H/PC with a smaller keyboard. Anything you can do to simplify text entry helps.

Finally, I appreciated the addition of CIC's Quick Notes. This application lets you jot down freehand notes, make maps and diagrams. From Tools menu select Options and check Grid Lines and a faint grid appears on the screen. I found this useful for creating maps and making sketches.

As I mentioned, the C-Series H/PC has relatively small keys, with a calculator-like feel to them. You won't want to do a lot of data entry on it. The 2010 c (color screen version) gets about three hours of use on full charged batteries. That's probably OK if you are an infrequent mobile user – the kind of person who spends most of the time at a desktop, and doesn't do a lot of work on the H/PC. But if you spend a lot of time away from your desk, or are on the road a lot, you should probably consider the monochrome version of the C-Series.

For contact information, see *At A Glance*, page 41. ■

Going Mobile with Windows CE

By John T. Kennedy

One of the benefits of the Handheld and Palm-sized PCs is that you can take them with you wherever you go and still access vital information. But what happens when you need to read your e-mail, or refer to a Web site in a hurry? Normally it's a mad rush to the nearest telephone wall socket to connect up your modem. That is, assuming your PC Companion actually has a modem. Some have a software modem built in, but many require the addition of a PC Card fax/modem – and these are renowned for gobbling up battery power. Fortunately, there's an alternative.

Picture yourself sitting on a beach, reading your e-mail, surfing the Web, or taking part in an online chat. You've left all your cables and adapters at home, and you're not straining your PC Companion's batteries. Wishful thinking? No! It's a combination of wireless and infrared communications that is not only available now, but cheaper than you might think.

The infrared/mobile phone combo!

Every H/PC and Palm-size PC has an IrDA-compatible infrared port located somewhere on the edge of the case. The infrared (IR) port can be used to transfer data to another PC Companion. It can even be used to synchronize the PC Companion with a desktop or laptop PC (assuming the host machine has an IR port).

Recently I discovered an additional use for the IR port of my Velo1: connecting the H/PC to a mobile telephone and using the two to go online. The latest batch of high-end GSM mobile phones from companies such as Ericsson and Nokia all feature IR ports. These phones are surprisingly affordable when bought as part of a service contract, at least in the UK where the cost is between £100 and £150 (about US $160 to $240).

Screen 1: The new Ericsson SH888 is unique in that it comes with a GSM modem built into it.

The Ericsson SH888 mobile phone is exceptional in that it has a built-in modem (see Screen 1). This greatly simplifies the task of connecting a computer to the phone. No special PC Card modems, wires or cables are required. All you need to do is set the computer and phone side by side. You then activate the IR port on the telephone, configure your H/PC and start your communications. To the H/PC, the telephone appears as a standard modem.

A word of caution: not all phones featuring IR ports can be used in this way. The Ericsson SH888 is the first to have all the capabilities of a modem included as standard. Other series 600 and 700 Ericsson phones can be used with a small snap-on adapter called the DI27, which provides similar capabilities. Unfortunately, current Nokia models seem to use different IR standards, and cannot operate with Windows CE PC Companions. The exception appears to be the Nokia 9000 Communicator series; a mobile phone with handheld capabilities built in. The Communicator offers similar IR connection opportunities.

Connecting Windows CE to the world

The H/PC and Palm-size PC are designed to easily connect to a desktop or laptop PC computer to synchronize and share data. In addition, both are fully conversant in the TCP/IP networking protocol and come with a full e-mail client called "Inbox." The H/PC also has a Web browser (Pocket Internet Explorer), and the Palm-size PC has Mobile Channels for reading downloaded Web content.

You can use the Windows CE "Remote Networking" application to dial directly into an Internet Service Provider, provided your

ABOUT THE AUTHOR

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PC Companion has a modem. Once connected, you can run Inbox to send and receive e-mail, or use the H/PC's Pocket Internet Explorer to browse the Internet. To configure your PC Companion for such a "dial-up connection" to your Internet Service Provider (ISP), activate the Start menu and select Programs, Communications, and Remote Networking (on a Palm-size PC select Programs, Communications, and Connections). Tap on the "Make New Connection" icon and select "Dial-Up Connection." You'll then select the modem your PC Companion is using and supply your ISP's telephone number, your own IP settings, username and password in the appropriate dialog boxes.

Normally, Windows CE only allows this sort of connection to happen via modem. However, with a simple modification to the Windows CE Registry, it's possible to add the PC Companion's IR port to Remote Networking's list of available modems. Then, when you configure a new Dial-up connection, you can select the IR port as your modem, and use a mobile phone equipped with an IR port to connect to your ISP and the Internet. Please note that I tested the proce-

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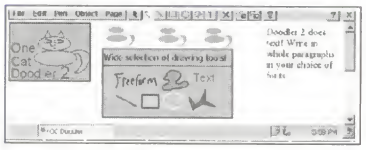

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Top Tips for Road Warriors

Make sure your system works before you go on the road! I was five hundred miles from home when I discovered that my Windows CE SMTP setting was incorrect, and nothing I could think of would get it working. I had to register and use the Web-based Hotmail e-mail system to send and receive necessary e-mail. The problem with the SMTP was cured when I returned home and figured out that I had to place angled-brackets around the Return address: setting in the Inbox Service Properties dialog. Test things out before you hit the road.

Make sure your cell phone service provider is playing ball. After spending a day cursing both telephone and computer, I discovered that my cell phone service provider hadn't switched on the data features I needed to connect. If you try everything, but continue to get the "No Carrier" message, contact your phone people.

One thing at a time, please! Web browsing with full graphics is very slow at 9600bps. Web browsing and downloading your e-mail at the same time, is even more so.

Use H/PC's built-in terminal program for BBSs. The H/PC has a built-in terminal emulation program that is perfect for logging into bulletin board systems. It also works over an IR link to a compatible telephone. Access the Terminal option from the Start, Programs, Communications menu.

No terminal program on the Palm-size PC? Well, actually there is. When you configure a New Connection, the Terminals section of the Devices Properties screen provides check boxes that let you display a terminal window before and/or after dialing. Check the before option and select Manual Dial and you have a simple terminal window for testing your link with your modem.

Streamline your e-mail before you leave town. If you are going on holiday, make sure you unsubscribe from your usual mailing lists, or switch to Digest mode. Trying to pick through a hundred messages a day from your favorite lists can be hard work.

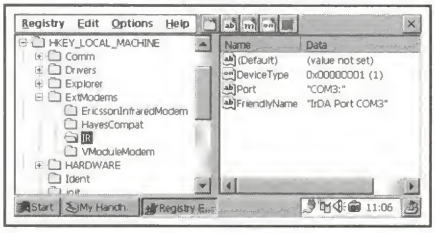
Understand your mail settings. Inbox can be configured to download a fixed number of lines of a message and ignore attachments: both good practice until you get the opportunity to connect at a higher speed.

Make use of the excellent Windows CE software available. Although you can include attachments with e-mail, Scotty FTP is essential for a slightly more flexible approach to file transfers (such as downloading electronic texts from Project Gutenberg, for example). It's available from Ruksun software (www.ruksun.com). There are also several client programs available for the real-time, text-based chat systems such as IRC and IRQ: making it possible to join in-group discussions while you relax on the beach. Products such as IrcCE from Mov Software (www.movsoftware.com/) and the bMobile suite from bSquare (www.bsquare.com) will ensure you are never out of touch,

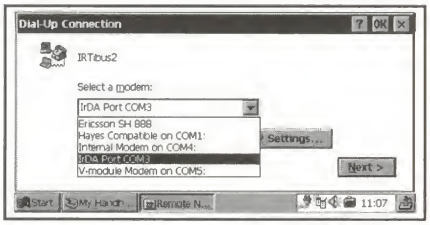
What is GSM?

GSM originated in Europe and is the most popular digital wireless standard in use by mobile phones, with over one hundred million users worldwide. In Europe, GSM operates on two bands: 900MHz and 1800MHz. The Ericsson SH888 mobile telephone can switch between these automatically giving better coverage in busy areas. In the U.S., the 1900MHz band is used by GSM and so the SH888 won't operate. However, Ericsson tell us a new model called the CH888 is due to be launched soon, and this operates on U.S.-friendly AMPS and GSM1900 bands, offering the same IrDA compatible modem facilities as the SH888.

There are currently 293 network operators from 120 countries around the planet offering GSM services, including 17 North American GSM wireless operators which now provide commercial service to more than 2 million customers in 1,545 cities in 41 U.S. states, the District of Columbia and four Canadian provinces. For details on GSM networks in the U.S., follow this link: www.gsmworld.com/gsminfo/cou_us.htm



Screen 2: The Registry Editor showing your IR port list of modems.



Screen 3: After modifying the Windows CE Registry, the IrDA port appears in the "Select a modem" drop down list when you make a new dial-up connection.

dure on two PC Companions: a Philips Velo 1 H/PC that had been upgraded to run the Windows CE 2.0 operating system and a Philips Nino Palm-size PC. It should work with all Windows CE 2.0 devices.

Modifying the Windows CE Registry

[WARNING: Do not attempt to modify the Windows CE Registry unless you know what you're doing. You can corrupt your PC Companion's system, requiring a complete hard reset to get going again. You would lose all your data. Back up your data before attempting this.]

Going online via IR communications and a mobile phone is a relatively straightforward process, but modifying the Windows CE Registry requires some care. The Ericsson SH888 mobile telephone comes with a CD-ROM containing a little utility program that automatically makes the necessary changes to your Windows CE Registry. This worked on all the Windows CE (CE v1 and v2) machines I tested it on, including the Palm-size PC.

Modifying the Registry can also be done using a Registry Editor program like RegEditCE (Shareware, Grundle Software, Web: www.grundlesoftware.com/wince.htm). I found details on how to "hack" the Registry on the Web site of Arne Hess (http://windowsce.hess.net/irda.html). Arne is a dedicated wireless communications enthusiast who has tested several makes of mobile telephones with Windows CE devices.

In summary, you need to add a new key to the ExtModems section under HKEY_LOCAL_MACHINE. The new key will create a new Dial-up networking option, which you can assign to the IR port, usually COM3. Screen 2 shows the modified Registry, viewed from the Registry Editor. Screen 3 shows the IrDA port appearing in the "Select a modem" drop down list that appears when you make a new dial-up connection.

Again, don't attempt hacking the Windows CE Registry if you don't know what you're doing.

A little slower, but no wires!

Once you've added the IR port to the Windows CE Registry and created your new dial-up connection, you're ready to go. Lay your H/PC and mobile phone down side by side and tap the icon for the dial-up connection you just created. After a few seconds you're on line! You can now send and receive e-mail and do the other things you normally do over a landline connection - although, just a little slower. Remember that GSM communications are currently limited to 9600 bps, which is still more than adequate for e-mail.

As Andrew Seybold wrote in the July/August 1998 issue of *Handheld PC Magazine*, the growth in both wireless communications and handheld computers is creating a powerful marriage of technologies. With a handheld computer and a mobile phone you can access information almost anywhere you go: with only two small bulges to spoil the line of your suit. The possibilities are endless, but for the moment at least, I'm just happy knowing that wherever I may go, I can always check my e-mail and read my Dilbert strips. ■

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A Long Day in the Life

By Craig Peacock

Windows CE helps this Englishman pack a lot of work and play into a long, but typical day.

ABOUT THE AUTHOR

Craig Peacock currently runs two web sites on Windows CE, Web: www.palm-pc.org.uk and Web: www.craigtech.co.uk. He is in the process of finishing a book on Windows CE, to be titled Windows CE Made Simple. It will be published by Butterworth Heinemman (Web:) and will hopefully be out before the end of the year.

The way I use Microsoft Windows CE devices has changed a lot since I got my first Cassiopeia A-11 back in November of 1996. I now use a Hewlett-Packard 620LX Handheld PC and an Everex Freestyle Executive Palm-size PC to do things I never even tried to do on a desktop PC. Here is an account of a long, but rather typical day in my life, with an emphasis on how Windows CE fits in.

6:00 A.M. Time to get up and get ready for work. While I'm doing this, I log onto my ISP from my desktop PC, and download my personal e-mail and Mobile Channels. Before I leave the house I'll synchronize my Everex Freestyle Executive Palm-size PC with my desktop PC, and download this information to the Freestyle. I also download newsgroup messages directly to the Palm-size PC (The Freestyle Executive has a 33.6k modem built into its docking cradle). I use bMobile News (Palm-size PC version available from bSquare, Web: www.bsquare.com) to read the newsgroup messages on my Palm-size PC (see Screen 1). I use Microsoft Inbox and Channel viewer for the Mobile Channels and e-mail (Screen 1).

6:30 A.M. I catch the train for my daily 30-minute trip into central London. I use the time to read the e-mail, newsgroup messages, and the Mobile Channels stuff I downloaded earlier. I usually find a seat on the train, but occasionally have to stand all the way into London, hanging on to a strap the whole journey. The Freestyle's one-handed navigation means that I can hang on and still read/access information.

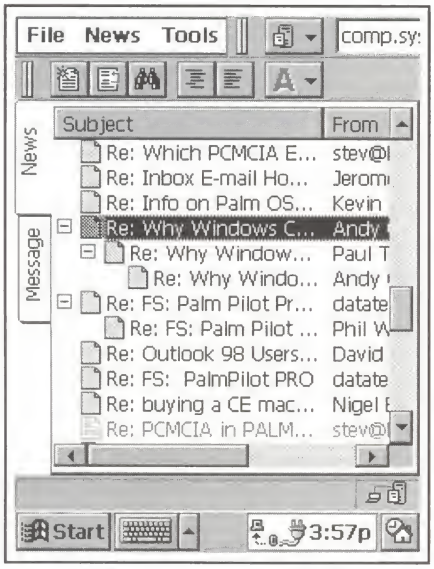
7:15 A.M. I grab a cup of coffee and start my morning routine. I work for the IT department of a bank and the first thing one of us has to do is perform morning system checks to make sure all services are working. There are a number of steps we have to follow and a number of things we have to check for in this process. We used to keep a paper checklist (some of my colleagues still do), but I replaced that with a Palm-size PC program called ListPro (H/PC and Palm-size PC versions available from Ilium Software, Web: www.iliumsoft.com). It's great for organizing all kinds of lists. I'm also in the process of testing a database created to track this process. The database was created using Visual CE (runs on a desktop PC, but downloads databases to H/PCs or Palm-size PCs, from Syware, Web: www.syware.com).

7:30 A.M. It's time to prepare for the first meeting of the day (the weekly IT department meeting). A quick check of Tasks shows me that all of the things I had to accomplish for the meeting are done. I take notes of the meeting in the Palm-size PC's Note Taker application, and transfer the things I have to accomplish to Tasks.

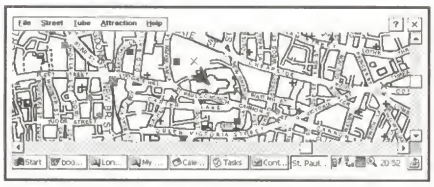
8:30 A.M. I have to leave for a meeting with a new supplier. I've never visited this company before, and have no idea which train station I'll have to get off at, or how long it's going to take me to get there. I pull out my HP 620LX and start up London Access (H/PC version available from Dynamic Software, Web: www.london-map.com). London Access is a London-specific map program similar to Microsoft's Pocket Streets. I quickly find the location of the supplier and the nearest train station (see Screen 2). London Access is only available for Handheld PCs (Screen 2).

9:15 A.M. The meeting starts and the new supplier asks me for the names and phone numbers of bank employees they might have to call. I have such a list in a Pocket Word document on my HP 620LX. I noticed on the way into the meeting that the supplier's office has a number of HP LaserJet printers with infrared ports. I ask if I could use one for a minute, and quickly print out five copies of the list using bPRINT (H/PC and Palm-size PC versions available from bSquare Technologies, Web: www.bsquare.com). Back in the meeting, I take notes with my 620LX. Everyone else is using $4000 top-of-the-line laptops. The meeting lasts over two hours, and three of the laptop users have to connect to their AC adapters because of low battery messages. I did not.

11:30 A.M. Time to get a quick bite to eat. But first I fax the meeting notes to a colleague who is working at home today. I slip my Nokia Datacard (wireless modem) into my 620LX's PC Card slot and use another bFAX Professional (another bSquare prod-



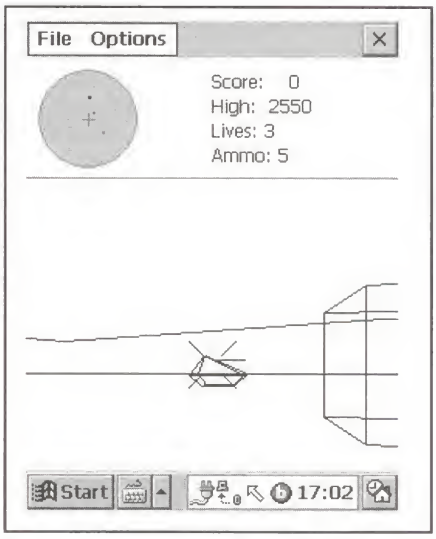
Screen 1: I read newsgroup messages on my Palm-size PC using bSquare's bMobile News.



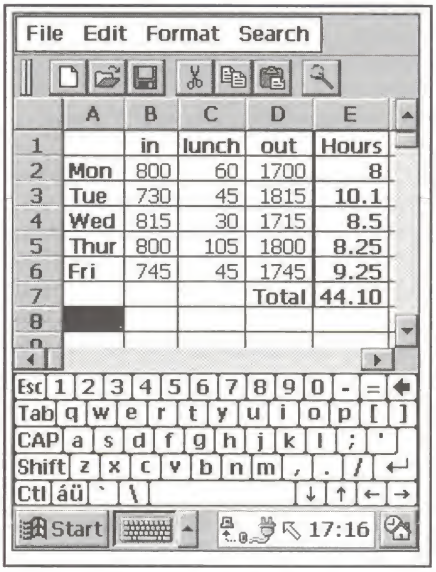
Screen 2: I use London Access on my HP 620LX when I need to find the location of an unfamiliar address in London.

uct) to fax the notes to him. While at lunch, I decide it's time to check my office e-mail. Again using my H/PC and the Nokia wireless modem, I log on to one of the bank's dial-in servers and use Cadenza (Palm-size PC version in development, H/PC versions available from CommonTime, Web: www.commontime.com) to check my Lotus Notes e-mail. (Cadenza also lets you run custom Lotus Notes databases on an H/PC.) After logging on, I check my e-mail. No urgent messages are waiting. [The bank I work for is also evaluating two other corporate solutions available for Lotus Notes users: Mail-on-the-Run (from River Run Software, Web:www.riverrun.com) and ASL Connect (from Advance Systems Limited, Web: www.asl.com).]

12:30 P.M. I'm on the train again, heading back to the office, and it's time to relax a little. There's no better way to take my mind off of things, than to play a little TankZone on my Palm-size PC (Screen 3) (H/PC and Palm-size PC versions available from Sticky Software, Web: www.sticky.net). Sometimes I prefer to play WarriorCE (H/PC version only from Surerange Ana-



Screen 3: I relax a little on the train, playing a quick game of TankZone on my Palm-size PC.



Screen 4: Pocket SpreadSheet adds a much-needed spreadsheet program to the Palm-size PC.

lysis, Web: www.surerange.com). It looks great in color on the HP 620LX. There are so many games available for the H/PC and Palm-size PC that it's hard to choose between them. Other favorites include BFM Casino, game package includes 10 popular casino card games (from BFM Software, Web: www.bfmsoft.com), Fun Pack and other arcade classics (from Jimmy.Com, Web: www.jimmy.com), Backgammon (from Anyware Consulting, Web: users.aol.com/anyware/), and of course the Microsoft Games Pack for Windows CE, (Web: www.microsoft.com/windowsce).

1:00 P.M. Still on the train and tired of playing games, so I'll enter the contact information from the business cards I received at the meeting. I normally enter new contacts on my H/PC and then synchronize that with my desktop PC when I'm in the office. I have my PC set to automatically synchronize data whenever I connect, so I don't think much about it. Many of my colleagues enter all contact details on their PCs first, and then synchronize with their mobile devices.

1:10 P.M. I'm still on the train when a call from the office comes in over my mobile phone. Someone urgently needs to know some technical information about the office phone system (yea, I do that too). I have my Palm-size PC in hand, so I quickly call up the spreadsheet I use to organize this type of information, and give him the details he needs. I've been evaluating a new Palm-size PC product called Pocket SpreadSheet (available from Surerange Analysis, Web: www.surerange.com) (see Screen 4). As of the most recent version (as of August 16), Pocket SpreadSheet does not support file import and export, which means that I have to re-enter information from other spreadsheets. But Surerange is working on a Windows CE Services filter that will allow drag-and-drop conversion of spreadsheets.

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It should be almost ready by the time you read this article.

1:15 PM I get off the train and grab a cab to the bank's main office (I have to pick up some training manuals). In the cab I decide to send a brief note to a couple colleagues on how the meeting went. Instead of trying to type in the note on the H/PC, I simply make a short voice recording and e-mail the WAV file.

1:30 P.M. I've got the manuals and am in a cab on the way back to my office when I get another phone call. This time it's a colleague who needs contact information for a client. Again, I slip my Nokia wireless modem card into my H/PC and I use SMS Sender, version 1.5 (from Lumir Vanek, Web: www.ktpquantum.cz/handheld) to send the information directly to his mobile phone. Here in the UK, and it lots of other places around the world, we can use a system on our Mobile Phones called SMS (Short Message Service). This allows us to send short text messages of up to 160 characters to other mobile phones. The messages are viewed on the mobile phone's small LCD display, and no special software is required on the phone.

Note: Future generations of mobile phones will come with some very interesting capabilities, including the ability to perform electronic commerce and download e-mail and other information directly to the phones. In fact, tests of such systems are already underway in Europe. The implications are amazing, and amusing. Imagine you are stuck in a train station on a hot day, with no change in your pocket and a soda pop machine staring you in the face. You pull out your mobile phone, dial the phone number of the pop machine (printed conveniently on the front of the machine), and key in your request using the phone's number pad. Out pops the pop, billed to your mobile phone account. Here are some Web sites that discuss these technologies: Nokia, Web: www.wirelessfuture.nokia.com/ and www.nokia.com; The WAP Forum, Web: www.wapforum.org/; Ericsson, Web: www.ericsson.se; Motorola, Web: www.motorola.com; DeLaRue, Web: www.delarue.com/.

1:50 P.M. I'm almost back at the office, but I still have time to enter my expenses into Pocket Finance (H/PC version available from Landware, Web: www.landware.com/. Palm-size PC beta version available from the developer, Anyware Consulting, Web: users.aol.com/anyware/wce/patm/default.html). I've been using Pocket Finance on my H/PC for ages, and now I'm trying the beta version on my Palm-size PC. It's great to have it with me all the time, to keep track of the money I spend so that I can make sure I claim it back. [Note: My HP 620LX comes with a built-in copy of another expense tracker, Quicken ExpensAble (H/PC and Palm-size PC versions available from On the Go Software, Web: www.onthegosoftware.com)].

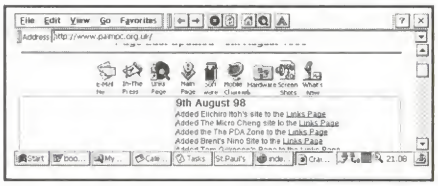
2:00 P.M. Finally back to the office for a quiet afternoon.

4:00 P.M. My girlfriend and I are going to have dinner with some friends this evening and we need to bring some wine. I open eWallet on my Palm-size PC (H/PC and Palm-size PC versions available from Ilium Software, Web: www.iliumsoft.com). The eWallet program is an electronic version of a paper-based card file system, and is used to store miscellaneous information on an H/PC or Palm-size PC. I go to the Wine card, where I have listed the various wines my girlfriend and I have tried. The card includes comments about the wines: whether we like them or not, and where we bought the wine. I pick out an appropriate wine, available at a wine shop I'll pass on my way home.

We're going to have dinner with our friends Mike and Helen, and I remember that Mike wanted to see the new design for my Web site (www.palmpc.org.uk). I use Whack Force (from Ruksun Software, Web: www.ruksun.com) to download my beta site from my test server to my HP 620LX. Whack Force lets you download Web pages, which you can then view off line with Pocket Internet Explorer. bREADY (from bSquare Technologies, Web: www.bsquare.com) has an "Import from Web" option with capabilities similar to Whack Force.

5:00 P.M. My working day is almost over. I do a lot of my work on the H/PC, and it's time synchronize it with my desktop PC. It's a relatively slow process using a serial connectivity cable, but I've discovered a way to make it faster. I use the Low Power Ethernet Adapter Card (from Socket Communications, Web: www.socketcom.com/wceprods.htm) to connect to my desktop PC. I can synchronize my H/PC with my desktop PC in less than 10 seconds (and back it up in about 45 seconds). Socket recently started offering the Ethernet Adapter in the CompactFlash form-factor, making it possible to connect and synchronize a Palm-size PC as quickly.

5:15 P.M. Just before I leave work, I log onto my ISP via my Everex Freestyle Executive and the 33.6k modem built into its portable docking cradle. I download all my personal e-mail so that I can read and respond to it on the train journey home.



Screen 5: Earlier, I'd used Whack Force from Ruksun Software, to down load an image of the Web page I'm redesigning. I then use Pocket Internet Explorer on my H/PC to show my friends the new design for my Web site.

6:30 P.M. I arrive home and log on one more time to send the e-mail responses I wrote on the train ride home.

7:00 P.M. We leave for our dinner engagement. On the way, I receive an urgent call from the office. I need to connect to one of the UNIX servers at the office and sort out a problem. From the back seat of a taxi, I use my H/PC, my Nokia wireless modem and Telenet Force (from Ruksun Software, Web: www.ruksun.com) to log onto the server and fix the problem. I then use Scotty FTP (also from Ruksun) to download one of the server's log files to my 620LX for more analysis tomorrow.

7:30 P.M. We arrive at our friends' home and I use the HP 620LX to show Mike my new Web site. Mike didn't like a few things, so I ran up a copy of HTMLEDIT (available from bSquare Technologies) and changed the pages there and then on my HP 620LX (see Screen 5). Later in the evening I decided to demonstrate how easy it is to record voice notes. Mike and Helen had both mentioned that they liked the wine, so I make a quick voice-memo to that effect. Later, when I review my voice memos, I'll transfer that information to the wine list I keep in eWallet.

11:30 P.M. I arrive home and connect my Palm-size PC to its AC adapter to recharge it over night. I don't bother doing this with my HP 620LX. It recharges quickly, in a couple of hours, and I have an AC adapter at work. I'll recharge it tomorrow morning at the office.

Tomorrow is another day, and it's my turn to cook dinner. My cooking is edible, but according to some, only just! It's too bad, with all the creative Windows CE software now available, that no one has created a good electronic cookbook.

Good night! ■

Handheld PC Users Recommend Their Favorites!

What to buy? Software, accessories, and tips for Windows CE PC Companions.

What do the day-in, day-out users of PC Companions use and recommend? This series lets PC Companion users share their opinions about the truly useful additions you can make to your Handheld PCs and Palm-size PCs. What are your top PC Companion products? E-mail me at rich@thaddeus.com, and let me know.

The 10 Essentials for a Healthier, More Productive H/PC

By Edward Zabrek, M.D.

1. Backup frequently!

If you have an H/PC w/ a backup utility, use it whenever you change important data! If you don't, get one. This may seem excessive, however if you ever crash, you'll be glad you did. The two best bundled programs I have seen are Compaq's "Flash Backup" (Compaq 2010c and 2015c), and HP's "BackUp". For a complete PC Card backup, I recommend and use a shareware program known as DBBackup from John Schettino (Schettino@writeme.com).

2. Carry your H/PC in a padded case.

Get one that will allow for storage of extra RAM cards, batteries, an extra pen and or stylus. If you ever drop your H/PC, your investment in a good case will more than pay for itself! HP has a custom case (made by Targus) that works extremely well for the 300/600LX series of H/PCs. Most H/PC and Palm-size PC manufacturers have them available as accessories.

3. Keep extra batteries with you at all times!

Get extra batteries and keep them with you at all times. If your unit uses a rechargeable battery pack, get an extra one and keep it charged at all times. If possible, carry these with your unit in the carrying case.

4. Get Pocket OnSchedule 2.5 for Windows CE.

This alternative to Pocket Outlook enhances the innate functionality of any H/PC. Features include unlimited databases, dialing support, Internet access, direct e-mail, call/e-mail logging, contact information templates and customized layouts. Fully compatible with the desktop version, On-Schedule 97, as well as other major PIMs and contact managers. Download the 30-day trial version from www.odyssey-inc.com. Once you try it you'll never use Pocket Outlook again!

5. Get a screen protector and cleaner.

You end up tapping the H/PC's screen a lot, leaving fingerprints, or scratches. Concept Kitchen's PDA Starter Kit contains a removable plastic screen protector, and a disposable and reusable set of cleaning cloths. It's the best package I've seen and will pay for itself many times over through the years (www.conceptkitchen.com).

6. Clean up desktop!

This makes the H/PC a lot easier to navigate, and saves you many keystrokes in searching for your commonly used programs. Delete infrequently used items on your current desktop. If you have a number of games, save them to a desktop folder.

7. Get a color-screen H/PC.

They are so much easier to read than the "grey/green" monochrome units. They do use more power, so follow common sense about conserving your batteries (connect up to an AC adapter whenever possible, don't overuse the modem or backlighting, carry spare batteries).

8. Get an extra AC adapter and connectivity cable.

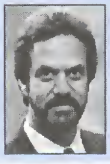
If you use your H/PC or Palm-size PC with your office and home computer, have an AC adapter and connectivity solution for each location. Manufacturers offer these as accessories. It will cost you a little more, but you won't have to carry the excess baggage around.

9. Get eWallet!

This nifty add-on program will keep all of your important private data (e.g. credit card numbers, phone cards, etc.) secure if any unsuspecting hands or spies get a hold of your unit with or without your permission (www.iliumsoft.com).

10. Get Randsoft's Harmony 98 multiple PIM synchronizer.

This is a great replacement for the ActiveSync™ program that comes with your H/PC. Harmony synchronizes your PIM data with Lotus Organizer, Lotus Notes, Symantec ACT, Goldmine, and nearly every major desktop PIM on the market. Randsoft is constantly adding to and updating this program to accommodate the most recent and popular contact managers on the market. It is much faster, and more efficient than anything I have ever seen (www.randsoft.com). ■



ABOUT THE AUTHOR

Dr. Zabrek is a practicing obstetrician-gynecologist in Houston, Texas. He is also the chief technology correspondent for OBGYN.NET (www.obgyn.net, a website for obstetricians, gynecologists, and related industry persons.) His ultimate goal is to create the perfect electronic medical record with a major focus and link to the Handheld PC.

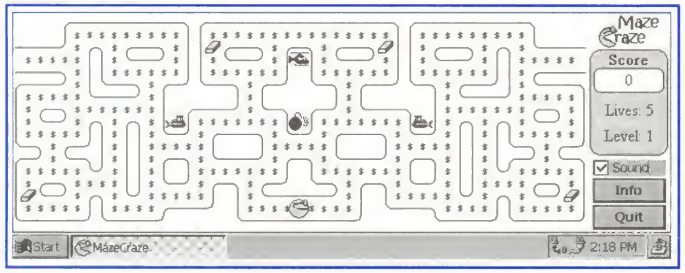
Try Before You Buy!

Download these handheld PC and Palm-size PC programs for free and try them before you buy them!

Experience is the best teacher, and also the best product reviewer. Fortunately, many of the software programs developed for Windows CE are made available as commercial demos, shareware, or freeware, letting you try the program first to see if you like it.
This new section in Handheld PC Magazine will take a brief look at such software. We'll describe it, give you a few brief editorial comments about the product, and then let you know where you can get the software for free.

All software reviewed by Rich Hall, unless otherwise stated.

MazeCraze



MazeCraze: A Pac Man clone for the H/PC

This Pac Man clone provides arcade entertainment on H/PCs (Palm-size PC version out soon). As with the old Pac Man, you maneuver your little gobbler around a maze, devouring dollars left in your path, and trying to avoid enemy bombs, bulldozers, and more. It has a variety of sound effects, which I immediately turned off so the publisher wouldn't think I was having too much fun. You might want to set the speed of the game slower at first.

DOWNLOAD FREE demo at www.fieldsoftware.com

MazeCraze price — $19.95; Use with H/PCs; Palm-size PC version coming; Sales contact: MobileSoft; Phone 800-773-1523 or 330-673-7110; Web www.mobilesoft.com.

QuickLaunch

Promoted as a "button extender" for the Palm-size PC, this simple utility lets you access Palm-size PC applications quickly. Open QuickLaunch and tap on the applications button and it pops up. QuickLaunch lets you assign any built-in or user-installed application to its screen buttons. Palm-size PC users already have user-configurable hardware buttons to open four applications (Start, Settings, Buttons, Program). But if you find yourself regularly accessing more than four applications, QuickLaunch may be for you. Assign QuickLaunch to one of the hardware buttons. Then when you want to start an application, all you have to do is press a button and tap the screen.

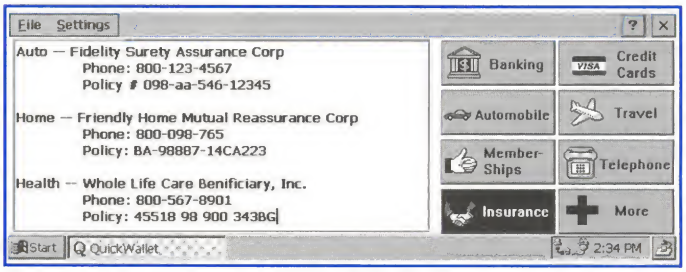
Free version of QuickLaunch for the Palm-size PC lets you assign three quick launch buttons.

The free version lets you assign three QuickLaunch buttons; the commercial version lets you assign 18. The free version is alright for checking out the program, but three user-assigned buttons is too few. If you like it, pay the $9.95 for the full 18-button version.

DOWNLOAD FREE from www.applian.com
Freeware; Commercial version with 18 user-assigned quick launch buttons — $19.95; Use with Palm-size PC only; Contact Applian Technologies; Phone 415-831-1499; Fax 415-668-6668; Web www.applian.com.

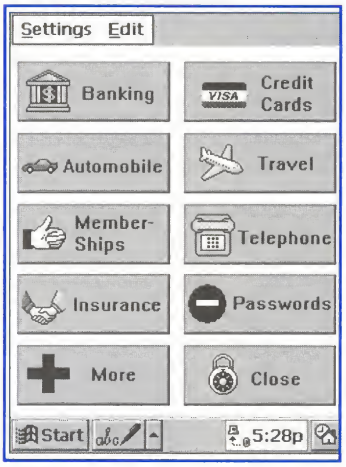
Commercial version of QuickLaunch for the Palm-size PC lets you assign up to 18 quick launch buttons to your Palm-size PC.

QuickWallet



QuickWallet for the H/PC

Most everyone keeps important information on cards in their wallet. These cards include credit cards, ATM cards, phone calling cards, drivers license, social security card, and more. QuickWallet lets Windows CE users keep this vital information on electronic "cards" in their H/PC or Palm-size PC. QuickWallet is a simple database with seven standard "cards" (i.e., categories of data) and a text screen associated with each card. The screen above shows the Insurance card, listing policy numbers and contact information for auto, home, and health insurance. In addition to the standard cards, Quick Wallet has seven customizable cards to hold other important information. For example, I have a card labeled "Xmas List." Whenever my wife, son or daughter



QuickWallet for the Palm-size PC

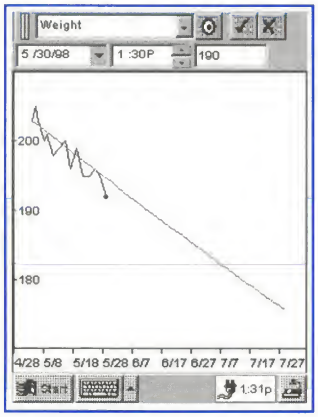
mention something that might qualify as a Christmas present, I slip it in this card.

The application is limited to seven standard cards and seven customizable cards. Each card can hold only one screen of information. You cannot export this information or print it out. The nice thing about QuickWallet is that the application is free. You can download and use it for as long as you like without paying a cent. A commercial version that includes password protection is also available.

DOWNLOAD FREE from www.applian.com
QuickWallet price — free; Commercial version with password protection — $19.95; Use with H/PCs and Palm-size PCs; Contact Applian Technologies; Phone 415- 831-1499; Fax 415-668-6668; Web www.applian.com.

Logeny's Fitness Tracker

[Note: "Stop Dieting and Start Losing Weight," by Bil. Alvernaz, was the most successful article we've ever run in Handheld PC Magazine (see Sep/Oct 98, page 27). Bil. had literally thousands of e-mail requests for his home-grown Pocket Excel fitness system. I though I'd better mention this program as a follow up.]



Logeny's Fitness Tracker lets you set fitness goals and track your progress graphically.

Logeny's Fitness Tracker is a Palm-size PC application that lets you to set goals for, and track the progress of your fitness or training program. These goals are presented graphically and your daily, weekly, or hourly progress towards the goal is recorded and displayed.

For example, you can set a goal for your weight in two months time. A weight loss curve will be displayed. Each day as you enter your weight on your Palm-size PC, you can see how well you are keeping to your plan. Fitness Tracker has weight, exercise and calorie intake series built in. In addition, you can create up to 9 of your own data sets to keep track of.

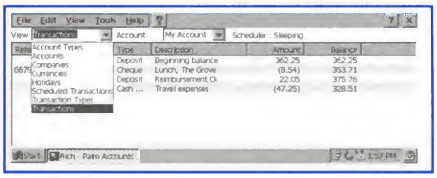
I have to admit that I had a hard time figuring out how to use the demo version. Hopefully the commercial version will come with documentation that explains this, and give some samples.

DOWNLOAD FREE demo from www.logeny.com/
Price: $29.95; Use with Palm-size PC; Contact: Logeny Inc.; Phone: 503-622-4055; Fax: 503-622-4537; E-mail: hk@logeny.com; Web: www.logeny.com/

Palm Accounts

This standalone personal finance application for the H/PC lets you track and schedule financial transactions for multiple accounts, in multiple currencies. The H/PC's international settings are automatically entered as the date of the transaction, unless you overwrite them. A scheduling facility enables recurring transactions to be entered automatically as they become due.

Data views can be customized to change sort order, column order, hide or show specific columns, color, font size and style. Navigation and data entry is facilitated by pop-up menus and user definable defaults for data entry screens. Palm Accounts comes complete with online help, user's guide and sample data.

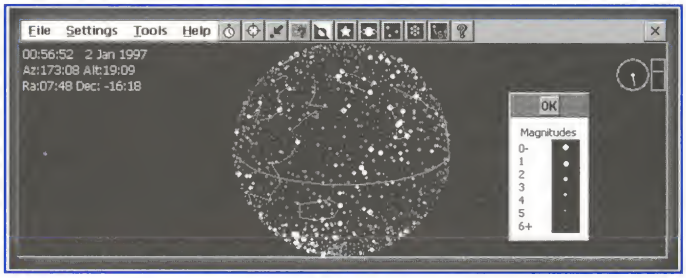


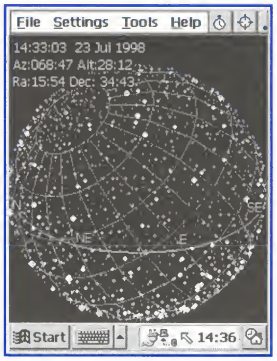
Palm Accounts lets you track personal finance transactions on your H/PC and view your accounts, scheduled transactions, a list of currencies you use and their relative value, and more..

Palm Accounts is a powerful little program that is easy enough to set up and use. However, it is a standalone product and does not synchronize with Microsoft Money, Quicken, or other desktop personal financial managers. This means that it is intended to be used as your only financial tracker. You can back up its data file.

DOWNLOAD FREE trial version at www.stargate-software.co.uk
Price: $25.00; Use with H/PC with Windows CE 2.0 or later; Contact Stargate Software Ltd; Email: sales@stargate-software.co.uk; Web: www.stargate-software.co.uk

Pocket Universe





H/PC and Palm-size PC versions of Pocket Universe display the positions of the moon, planets, and nearly 5,000 stars.

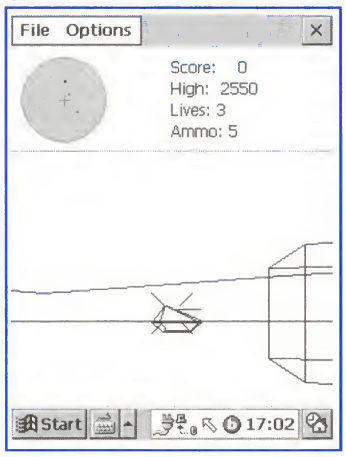
This guide to the night sky displays the positions of the moon, planets, and nearly 5,000 stars. Pocket Universe includes lunar phases, outlines for major constellations, and advanced features like the ability to lock on a planet and watch its position during time changes.

Pocket Universe lets you zoom in and out on the star map, set the viewing location, select the magnitude of the stars to be displayed, and more. I had no problem setting Pocket Universe up on my Palm-size PC and setting the viewing location to Fairfield, Iowa, U.S.A. (41° North, by 91°55" West). A number of the features are hobbled on the demo version, but it will still give you a good idea if Pocket Universe is for you.

If you're going to do star gazing, you need to be out in the dark, away from city lights. The commercial version has an option that inverts the screen, so Pocket Universe displays black dots on a white background. This and carefully adjusting the contrast will help improve the readability of the display. But you'll be using your H/PC or Palm-size PC's backlighting a lot, and may deplete the batteries. It might be wise to take a small flashlight along and use that to illuminate the screen.

DOWNLOAD FREE DEMO from: http://users.tibus.com/john. kennedy/-Palm/software.htm
Price: $30.00. Use with H/PC and Palm-size PC; Contact: Sticky Software; Email: universe@sticky.net; Web: http://users.tibus.com/john.kennedy/

TankZone



TankZone lets you battle enemy tanks on your PC Companion.

If you like the old arcade "tank battle" games, but hated all the quarters you spent, you'll like TankZone, from Sticky Software. Roam around the landscape on a search and destroy mission. Hide behind objects and keep one eye on the radar, which lets you know where the bad guy's tank is. Fire fast and first, but keep an eye on your ammunition level.

TankZone is available in H/PC and Palm-size PC versions. The author makes this available as "charity-ware." Try it for free, but if you decide to keep using it, make a donation to the charity of your choice. With all the quarters you'll save, you can afford the donation.

DOWNLOAD FREE CHARITY-WARE from: http://users.tibus.com/john. kennedy/Palm/software.htm

Use with H/PC and Palm-size PC; Contact: Sticky Software; Email: universe@sticky.net; Web: http://users.tibus.com/john.kennedy/

HandMap 1.6e

HandMap displays city or regional maps on a PC Companion (Palm-size PC display shown here), and lets you zoom in and out on desired locations.

An electronic street directory that lets you display a city or regional map, pan around the map, and zoom in and out for greater or lesser detail. HandMap lets you search for features (streets, parks, etc.) by name. The map modules form part of a world-wide network of maps, all linked together.

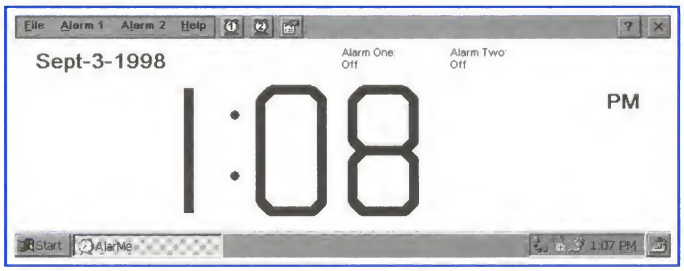
The brief documentation that came with the demo version says that you can use it with the H/PC and Palm-size PC, but the program does not come with a setup utility. That means that you have to use Windows CE Services to copy the files over to the H/PC or Palm-size PC. This method of installation does not place a reference in the Start menu, which means that you have to use Explorer to start HandMap. Unfortunately, Palm-size PCs do not come with a built-in Explorer application. Fortunately, the Cassiopeia E-10 comes with an Explorer-like add-on called File Find, which lets you view files and launch programs. Users of other Palm-size PCs can use the Palm Explorer application, described on page 39, to view files and launch programs on Palm-size PCs.

The standard version of HandMap and a sample map are available for free at the Web site listed below. HandMap Deluxe, supporting "layered" map format, is available for $16.

DOWNLOAD FREEWARE at www.cemonster.com/index.html

or at developer's Website. Use with H/PC or Palm-size PC; Developer: Evolutionary Systems; Phone: 510-658-5244; E-mail: support@evolutionary.net; Web: www.handmap.net/

AlarMe



AlarMe displays a digital alarm clock on your H/PC and lets you use it as a bed-side travel clock.

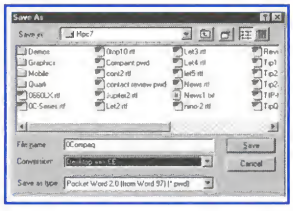
When you're on the road, why take an alarm clock with you when you can use this simple little application to turn your H/PC into one. Displays a large, clear digital 12 or 24-hour clock that lets you set two alarms. Select from different .WAV files for the alarm sound, and adjust the volume and "snooze time." Hit the Space Bar to snooze, hit Enter to stop an alarm.

AlarMe works fine on batteries, but the H/PC's screen times out. It's better to connect your H/PC to its AC adapter and leave it on the nightstand by your bed.

DOWNLOAD FREE DEMO from www.cemonster.com/index.html

Price: $15; Use with H/PCs; Developer: Eppen Software; Web: www.eppen.com/alarme/

Offline File Converter



The Offline File Converter displays an Explorer-like screen that lets you select and then convert files back and forth between desktop PC and Windows CE file formats.

Installs on your desktop PC and lets you convert back and forth between desktop PC and Windows CE file formats. This ability is particularly handy for e-mail communications between Windows CE devices and desktop PCs. For example, let's say you were going to attach a Office 97 Word document to an e-mail you were sending to an associate. This associate is traveling at the moment, with his or her H/PC. You could convert the document to Pocket Word format on your desktop PC, and attach the Pocket Word document to the e-mail. Likewise, if the associate e-mailed you a Pocket Word document, you could convert it to the desktop Word format and open it. I use this handy utility frequently.

Documentation is non-existent, but the program is very simple to use. I was able to convert back and forth between desktop and Pocket versions of Word, Excel, and PowerPoint documents. This is freeware, so once you download it, it's yours to use.

DOWNLOAD FREEWARE at www.cemonster.com/index.html

Use on Windows 95 desktop PC; Developer: NStall Company; Web: www.nstall.com/

PC COMPANION
NEW PRODUCTS

The PC Companion Products *listed here include hardware, software, services, and resources. Prices listed are suggested retail price. Unless otherwise indicated, software products are delivered on floppy disk. Listings do not represent an endorsement by the editors. To announce in our next issue, please send an email message to editor@thaddeus.com. For live links to the web sites mentioned in this section, visit our web site at* www.thaddeus.com.

Hardware

Communications

Low Power Ethernet CompactFlash Card

A CompactFlash version of Socket's LP-E Card that plugs into the CompactFlash slot of any Palm-size PC and many H/PCs, giving the user a fast, location independent way to synchronize with a desktop PC, share networked files, and browse the office intranet or the worldwide web. The LP-E connects to a Windows network via 10BASE-T twisted pair cable and transfers data at the rate of 10 megabits per second — 500 times faster than serial port communications. The CompactFlash size Low-Power Ethernet Card operates on 3.3 volts rather than 5 volts, conserving the PC Companion's batteries.

Price: $149
Use with H/PCs and Ps/PC
Available through Socket resellers world wide.
Contact: Socket Communications, Inc.
Phone: 800-552-3300 or 510-744-2700
Fax: 510-744-2727
Email: LPE@socketcom.com
Web: www.socketcom.com

Serial I/O CompactFlash Card

Inserts into a CompactFlash slot and adds an industry standard DB-9 serial port to H/PCs and Palm-size PCs. This lets users connect to external modems, printers, GPS devices, barcode readers, and other input/output devices using a standard serial cable. Peripheral suppliers do not have to provide different interface cables or converters to match each model of H/PC or Ps/PC.

Price: $169
Use with H/PCs and Ps/PCs with C/F slots.
Available through Socket resellers world wide.
Contact: Socket Communications, Inc.
Phone: 800-552-3300 or 510-744-2700
Fax: 510-744-2727
Email: LPE@socketcom.com
Web: www.socketcom.com

Software

Calculators

Tipster

A one-touch tip and sales tax calculator for H/PCs and Palm-size PCs. Lets you calculate tips and amount per guest quickly and easily.

Freeware
Use with H/PC, Ps/PC and desktop PC
Contact: Ilium Software
Phone: 888-632-5388 or 734-973-9388
Fax: 734-973-2640.
E-mail: info@iliumsoft.com
Web: www.iliumsoft.com

CoolCalc for the Palm-size PC

Adds up to 10 different calculators to your H/PC or Palm-size PC, including a standard calculator, two scientific calculators (one with RPN, one non-RPN), and a programmer's calculator. You can customize any calculator or create your own. CoolCalc lets you reposition buttons with your stylus, and change the function, sound, and appearance of each button. Macro feature lets you build your own functions..

Price: $19.95
Use with H/PCs or Ps/PCs
Free Demo version available at: www.applian.com
Contact: Applian Technologies
Phone: 415- 831-1499
Fax: 415-668-6668
Web: www.applian.com

RPN Calculator

A Reverse Polish Notation programmable calculator for science and engineering that supports over 180 functions and 11 data types (real, integer, variable, vector, matrix, list, program, unit, complex, string, and tag). The stack, variables, and programs can be saved and reloaded. The number of levels of stack that can be used is virtually unlimited.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html
Developer: Interlog
Email: support@interlog.com
Web: www.interlog.com/

Communications

GlobalPulse for Windows CE

Software-only solution, that lets you connect the H/PC to a GSM-compatible mobile phone via serial cable. Connect with the Internet, send and receive faxes, pick up and send e-mail, and use the Short Message service (SMS) to send brief text messages to mobile phones. Also comes with free Phonebook manager so you can edit/add phone numbers, so if you lose the phone, you don't lose your numbers. GlobalPulse for Windows CE is initially available for Hewlett-Packard H/PCs, with connectivity cables for Nokia GSM phones. TDK indicates that GlobalPlus will be available for other H/PCs, handsets and Palm-size PCs in the future.

Find What You Need

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Developer Products/Services
Services 40
Software 40
Training 40

Price: N.A.
Use with H/PCs
Contact: TDK Grey Cell
Phone: + 44-(0)1256-701646
Fax : + 44-(0)1256-701647
Email: sales@tdkgreycell.com
Web: www.tdkgreycell.com

FaxPlus

WYSIWYG fax program for the H/PC that comes with an intuitive user interface with simple-to-use drawing tools. Uses the Class 1 (Group 3) fax standard; Quickly fax handwritten notes; Draw/Fax precise diagrams using the tools provided; Import text and Pocket Word files, and draw over them using the Transparency Overlay System; Use the Clipboard to Cut, Copy and Paste images to and from FaxPlus.

Price: $59.95
Use with H/PC
Sales contact: CE Monster, Mobilesoft
Web: www.cemonster.com/index.html, www.mobilesoft.com

Developer: CyberQuest Systems
Phone: 91 212 640404; Fax: 91 212 640304
Email: Info@CyberQuestSys.com
Web: www.cyberquestsys.com/

Database

DBAssassin

Remove unwanted database files from your H/PC with ease.
Freeware (download from Sales contact or Developer)
Use with CE 2.0 H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Developer One
Email: info@developerone.com
Web:www.developerone.com/

ListPro

A new version of Ilium Software's list manager program for H/PCs, and now for Palm-size PC and desktop PC's platform. ListPro lets your organize information in handy lists. Keep trip packing lists, supplies needed, steps in a project, videos to rent, and much more, in a convenient and easy-to-access form. Unlimited-length notes let you use ListPro as a Note organizing tool, and the new desktop companion version lets you make lists on your desktop PC and download them to your PC Companion.

Price: $24.95
($10.00 each additional platform)
Use with H/PC, Ps/PC and desktop PC
Contact: Ilium Software
Phone: 888-632-5388 or 734-973-9388
Fax: 734-973-2640.
E-mail: info@iliumsoft.com
Web: www.iliumsoft.com

QuickWallet

Lets Windows CE users store and encrypt vital personal information on electronic "cards" in their H/PC or Palm-size PC. QuickWallet is a simple database with sixteen standard "cards" (i.e., categories of data) and a single text screen associated with each card. A commercial version that includes password protection is also available.

Price: Free (Download at company Web site.)
Commercial version with password protection: $19.95
Use with H/PCs and Ps/PCs
Contact: Applian Technologies
Phone: 415- 831-1499; Fax: 415-668-6668
Web: www.applian.com

Data Entry

ART recognition

Adds voice recognition and enhanced handwriting recognition to Palm-size PC. Bundle includes:

SmARTwriter — Adds handwriting recognition that learns to recognize your handwriting instead of requiring you to learn its characters. Initial training takes five minutes. Can train smARTwriter to recognize symbols as words (i.e., "b/c" can stand for "because"), insert unlimited strings of text, or launch applications. Pop-up editing window lets you easily customize smARTwriter.

Pocket Commander — Adds voice command capability to your Palm-size PC. Launch or open any application or file or send voice mail via e-mail with a voice command. Insert strings of text with a user defined voice command. Pocket Commander recognizes any language, voice or accent.

Price: $59.95
Use with Palm-size PC
(Demo version available at www.artcomp.com/demo.asp)
Contact: Advanced Recognition Technologies (ART)
Phone: 888-ARTCOMP or 818-678-3999
Fax: 818-678-3994
Email: sales@artcomp.com
Web: www.artcomp.com

Developer

BasiCE 1.1b

A full implementation of the BASIC language for Windows CE. To install, you must extract the file on your desktop and then copy it to your H/PC.

Demo (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Email: deang@usa.net
Web: www.jps.net/deang/basice.htm

GeometryManager

Lets developers turn their fixed-sized dialogs into resizable dialogs. It handles all the grunt work of resizing and moving the

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Up to 250 hours printing from a single 'AA' cell.
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GA945CE (LINE POWERED) - 9600 BAUD - $49.95
GA945HP (LINK-A-PRINTER I) - for HP100/200 - $69.95
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UK & REST OF WORLD DISTRIBUTION CONTACT:
Tele: 44 181 302 4931 Fax: 44 181 302 4933
or via our Web Site Enquiry Form.

VISIT OUR WEB SITE AT http://www.greenwichinst.com

child controls in the dialog so you can focus on the functionality of your program. It also works in frame windows. It features a simple and powerful straight C API for the best compatibility. GeometryManager supports all versions of 32 bit windows, even Windows CE. Source code is available for purchase.

Price: $49 (download from Sales contact or Developer)
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: StoneHorse Software
Fax: 541-753-5863
Email: info@stonehorse.com
Web: www.stonehorse.com/

HTML Editor

Create, edit and save HTML files (.HTM, .HTML) as well as Windows CE Help files (.HTC, .HTP) right on your Windows CE-based Handheld or Palm-size PC.

Shareware
Use with H/PCs or Palm-size PCs
Contact: BSQUARE Corporation
Email: sales@bsquare.com
Web: www.bsquare.com

PocketC

Pocket-sized implementation of the C programming language for Windows CE. PocketC installs on H/PCs and lets a developer quickly write an applet, small or large, make on the go calculations, test algorithms, and more.

Shareware registration fee: $25 (download from Sales contact or Developer)
Use with H/PCs, Palm-size PCs and PalmPilot
Sales contact: WinCEonline
Web: www.winceonline.com/

Developer: Orbworks
Phone orders of registered version: 800-741-9070
Email: cao@orbworks.com
Web: www.orbworks.com/

Python CE

An interpreted, interactive, object-oriented programming language often compared to Tcl, Perl, Scheme or Java. Python CE includes the Python interpreter, a subset of the standard Python library modules, and several extension modules which provide access to various Win32 APIs.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Digital Creations
Email: brian@digicool.com
Web: www.digicool.com/~brian/PythonCE/index.html

Finance

Palm Accounts

Track personal finance transactions on your H/PC. Palm Accounts supports multi-currency transactions and lets you track multiple accounts. Its features include transaction scheduling, user definable transaction codes, categories and sub-categories. Palm Accounts uses the standard Windows CE international settings to determine how it should display numbers and dates, and is Y2K compliant. Palm Accounts is a stand-alone product and does not synchronize with Microsoft Money or Intuit's Quicken.

Price: $25.00
Use with H/PC
(Demo available at company Web site)
Contact: Stargate Software Ltd.
Fax: +0870 0568382
Email: support@stargate-software.co.uk
Web: www.stargate-software.co.uk/

Games

TankZone for Palm-size PC

A 3D tank battle on your PC Companion. Roam around a landscape on a search and destroy mission. Get them before they get you, but keep an eye on your ammunition level. TankZone is "charity-ware." It's free to download, but if you like it and want to keep using it, you must make a donation to the charity of your choice.

Use with H/PC and Palm-size PC
(Demo version available at:
http://users.tibus.com/john.kennedy/Palm/software.htm)
Contact: Sticky Software
Email: universe@sticky.net
Web: http://users.tibus.com/john.kennedy/

Emerald Hunt 1.3

Like in Space Invaders and Gorf, you have to kill the aliens before they kill you. As they shoot at you, your shields deteriorate until their lasers can finally hit you. Each level gets harder as the aliens shoot more lasers and also shoot more often, but you won't be able to even finish the first level until you register. Supports color-screen H/PCs.

Shareware registration fee: $7.00 (download from Sales contact or Developer)
Use with Palm-size PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Evolutionary Systems
Phone: 510-658-5244
Email: support@evolutionary.net
Web: www.evolutionary.net/

LOCE

A Windows CE version of the game of Life, invented around 1970 by the famous mathematician Conway. Use your stylus to place a few cells on a grid, and then watch them grow and change.

Freeware
Use with H/PCs and Palm-size PCs
Contact: Christian Zangl
Email: info@sizzac.com
Web: www.sixxac.com/ce

MukaMuka

Guide a ball from the top left of your screen through quickly moving gates and a small tunnel to reach the finish line and win. This game only includes two levels.

Freeware (download from Sales contact or Developer)
Use with H/PC
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Mobile Computer Software Gallery
Email: GHC02331@niftyserve.or.jp
Web: www.oohito.com/

Palm Fun Pack

Three classic games in one pack:

- SokoBox — push all marked blocks to their designated places. Don't trap yourself in or prevent a block from being moved further.
- Number Puzzle — a simple puzzle board game. Move the number pieces until you have them in the proper order.
- Slide Puzzle — similar to Number Puzzle, but pieces make up a picture. Move the pieces around till the picture looks OK.

Price: $32
Use with Palm-size PC
Sales contact: Surerange Analysis
Web: www.surerange.com/order.html

Email: jimmy@jimmy.com
Web: www.jimmy.com

Sabotage

Stop the paratroopers being dropped from a helicopter from reaching the ground and stacking up next to your turret. If they stack high enough, they'll be able to blow up your turret. This version has sound and supports Palm-size PCs and color-screen H/PCs.

Price: $10 (download from Sales contact or Developer)
Use with H/PCs and Palm-size PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Xoanan Industries
Email: sotteson@xoanan.com
Web: www.xoanan.com/windowsce/

Same Game

Match up similar blocks until there are

none left. Choose from three different-sized playing fields.
Freeware (download from Sales contact)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Thieves

Based on Golf solitaire, but with wild-cards, scoring and multiple levels. The cards are easy to read and the game is easy to play, but not easy to give up.

Shareware registration fee: $15
(download from Sales contact or Developer)
Use with H/PCs
(Includes desktop PC version)
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Thieves and Kings
Phone: 800-704-7277
Email: things@thievesandkings.com
Web: www.thievesandkings.com/

The Mill v1.0

The Mill is believed to have a common origin with Tit Tat Toe and Pachisi, in remote antiquity. In Elizabethan times it came to be called "Nine Men's Morris", or simply "Morris", from its fanciful resemblance to the morris (Moorish) dance. The object of The Mill is to lay the 18 pieces on the board and to move them in order to arrange three pieces of one's own color on a horizontal or vertical (not diagonal) line.

Price: $18.90
Use with H/PCs
Sales contact: Mobilesoft
Web: www.mobilesoft.com

Developer: KSE Software
Phone: +49-211-21 31 22; Fax: +49-211-21 31 29
Email: 100024.1403@compuserve.com

Graphics

One Cat Doodler version 2.0

Upgrade of a full-featured color/grayscale drawing program for Windows CE. Version 2.0 adds color and filled object support, shape-based drawing tools (such as Polygon and Ellipse) and organizational tools such as grids lines and multi-level grouping. For the traveler, an adjustable stability setting was added to compensate for bumpy drawing environments.

Price: $30
Use with v2.0 H/PCs (Palm-sized PC version due out soon)
Contact: One Man and a Cat Software
Phone: 423-877-1731
Email: info@onemanandacat.com
Web: www.onemanandacat.com

Internet

Alive

Keeps your Internet connection alive by pinging a user-defined site at a pre-defined interval. Alive sits out of your way in the Windows system tray.

Shareware registration fee: $15.00
(download from Sales contact or Developer)
(Note: Some handhelds need the MFCCE20.DLL file to run this application. You can download this at the Developer's Web site.)
Use with CE 2.0 H/PCs
Sales contact: CE Monster
Web: cemonster.com/index.html

Developer: AppStudio
Email: info@appstudio.com
Web: www.appstudio.com/

Passkey

Lets you unlock any Intelliant DocSafe compatible file. Use it to unlock secured e-mails, downloads from your intranet, or secured files from other Internet sites.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Intelliant
Email: info@intelliant.com
Web: www.intelliant.com/

Navigation

HandMap 2.1

An electronic street directory. You can zoom in and out and pan around looking at the map of the city or region installed. You can search for features (streets, parks, etc.) quickly by name. Map's modules form part of a world-wide network of maps, all linked together. Sample & purchased maps are linked to form a growing network.

Freeware demo (download from Sales contact or Developer)
Use with Palm-size PC
Sales contact: CE Monster
Web: www.cemonster.com/index.html
Developer: Evolutionary Systems
Phone: 510-658-5244
Email: support@evolutionary.net
Web: www.handmap.net

VFR add-on for TeleType GPS software

The add-on module to the TeleType GPS system lets VFR pilots display moving maps on their H/PC or Palm-size PC showing airport locations, VOR's, tower/unicom frequencies, airport altitudes, runway information (length and type). Special use airspace, parachute jumping locations, and man-made obstructions are also depicted. The software graphically shows runway configurations for the entire U.S. An unlimited number of waypoints can easily be entered into the system along with routing information. Other features include an odometer, bearing information, distance measuring, and a host of other navigational aid information is also provided.

www.PalmPCWorld.com

Your one-stop shop for Windows® CE based products including hardware, software and accessories

- E-10s and accessories in stock and ready to ship
- A Growing library of Windows® CE software ready for immediate download
- The latest Windows® CE news

PalmPC World
16A Seymour Road
East Granby CT 06026
Phone/Fax: 1.800.490.PALM (7256)
Email: info@palmpcworld.com

Price: Aviation add-on module: $95
TeleType GPS software: $149
GPS receivers: $varies
Use with H/PCs or Ps/PCs
Contact: TeleType GPS
Phone: 800-717-4478 or 1-888-TELETYPE
Fax: 617-734-3974
Email: gps@teletype.com/gps/
Web: www.teletype.com/gps/

Notes

MMM Sticker

Lets you put memo "sticky" notes on your H/PC screen. Notes can contain text, photos, drawings that you jot, calendars and clocks. Backup battery status, memory status, power and sound effects, and more.

Price: $12 (download from Sales contact or Developer)
Use with H/PC and Palm-size PC
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Onflo International Group
Email: ows@onflo.com.hk
Web: www.onflo.com/shareware/index.html

Reference

Pocket Universe for Palm-size PC

New version turns your Palm-size PC into a "personal planetarium" powerful enough to display almost 5,000 stars, planets and galaxies. Pocket Universe includes lunar phases, outlines for major constellations, and advanced features like the ability to lock on a planet and watch its position during time changes.

Price: $30
Use with H/PCs and Ps/PCs
(Demo version available at:
http://users.tibus.com/john.kennedy/Palm/software.htm)
Contact: Sticky Software
Email: universe@sticky.net
Web: http://users.tibus.com/john.kennedy/

Synchronization

ASL Connect v.2.0

A software program that enables remote connection and synchronization of Windows CE devices to corporate systems over any networking infrastructure. This latest version adds support for Lotus Notes/Domino Server. This means that mobile workers can now synchronize with any custom ODBC (e.g., Oracle, Ingres, Sybase, SQL Server, DB2, etc.) or Notes database within the corporation as well as retrieving their e-mail, updating their schedule, actions and addresses. Support for Microsoft Exchange will be delivered shortly.

Price: Varies
Use with H/PC and Palm-size PC
Contact: Advance Systems
Phone: 888-222-1978 / 408-954-7314
Fax: 408-273-6034
Email: info@asl.com
Web: www.asl.com

Utility

Journal for Windows CE

Quickly look up your legal, medical or engineering notes. Easily track technical problems and how you have resolved them or simply keep a personal password protected electronic diary. Journal for Windows CE fills the voids created when using programs like pocket Word or other notepads for such a purpose. Tightly integrated with pocket Outlook in look and feel including entry categorizing and filtering.

Price: $24.95
Use with H/PCs (Palm size version out soon)
Contact: Crown Logic Corporation
Phone: 877-CLC-7001
Email: info@crownlogic.com
Web: www.crownlogic.com

bPRODUCTIVE™

All of bSQUARE's productivity applications for the Palm-size PC have been bundled into this single package. bPRODUCTIVE includes the following:

- bFAX® Express — Fax text (.txt), rich text format (.rtf) and bitmap (.2bp) files from the Palm-size PC. Includes fax preview function. Ps/PC must have modem.
- bPRINT™ — Print text (.txt), rich text format (.rtf), and bitmap (.2bp) files through the serial or infrared port of the Ps/PC. Includes print preview function.
- bTRACK™ — Expense tracking program for the Ps/PC. Can fax or print reports using bFAXor bPRINT. bTRACK is customizable, with data input wizards to simplify input. Can also upload data directly to almost any corporate reporting system.
- bMOBILE News™ — Access Internet newsgroups via modem or through a connection to a deaktop PC, and read and reply to news offline. Supports attachments, subject threading, message filtering, and more.
- bREADY™ Viewer — View electronics texts or books on the Ps/PC. bREADY Publisher, sold separately, lets you create your own electronic texts.
- bTASK™ — Navigate and close Ps/PC applications quickly and easily.

Price: $79.95
(Demo versions of each of these programs are available on bSQUARE's Web site: www.bsquare.com/
Contact: bSQUARE Corporation
Phone: 888-820-4500 or 425-519-5900
Email: sales@bsquare.com
Web: www.bsquare.com

Jetcet Print for Windows CE

Enhances the printing capabilities of Windows CE Handheld PCs. Jetcet Print adds color printing and enhanced color and monochrome graphics support to Windows

Windows® CE
Pilot, Geos, Newton & Zaurus
✓ Custom Development
✓ Messaging Applications
Virtual Courier™ – cc:Mail
MS-Mail/Exchange connection.
Exchange forms & Lotus Notes
✓ International Porting
MicroBurst, Inc.
15732 CRABBS BRANCH WAY, SUITE 200
ROCKVILLE, MD 20855
PHONE (301) 330-2995
FAX (301) 330-8609
E-MAIL: markf@mburst.com

CE. With Jetcet you can print to the following printers:

- Hewlett-Packard PCL or compatible printers, including HP LaserJet and DeskJet printers
- Epson Stylus or compatible printers (ESC/P2)
- Canon BubbleJet printers
- Postscript printers

Jetcet prints in Pocket Word, Excel and Contacts, and use a Print Preview feature to view jobs before printing. Optional equipment for printing, including H/PC serial to parallel converters and infrared receivers, can be purchased separately or as a part of a Jetcet Print hardware bundle. For more information on supported printers and hardware bundles, visit www.westtek.com.

Price: $19.95
(Above price for product downloaded from Web site. The price is $24.95 if a disk is shipped.)
Contact: Westtek
Phone: 425-861-8271
Fax: 425-861-7926
E:mail: sales@westtek.com
Web: www.westtek.com

DTStamp

Press the hotkey combination and insert the time or date into Pocket Word, Pocket Excel, or any other application. There are 8 time formats, 14 date formats and 3 date separators to choose from.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html
Developer:
Chee Keat
Email: cheekeat@iname.com
Web: www.cecon.home.ml.org

AlarMe

Turns you handheld into an alarm clock and has big, easy to read numbers.

Price: $15 (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Eppen Software
Email: support@eppen.com
Web: www.eppen.com/alarme/

Capture CE

Installs a camera icon in your system tray. Click the icon to take a .bmp graphical image of your H/PCs screen.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Mobile Computer Software Gallery
Email: GHC02331@niftyserve.or.jp
Web: www.oohito.com/

DeClock

Turn your handheld into a desktop clock with the ability to display time including seconds, day of week, date, monthly calendar, and four different time zones at the same time.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html
Developer: Chee Keat
Email: cheekeat@iname.com
Web: www.cecon.home.ml.org

DelGarbage, DelHosts, DelInternet, DelRecent

Delete unwanted data with a single click. DelGarbage deletes all your trash; DelHosts deletes the "hosts" entry from the registry; DelInternet deletes the temporary Internet cache; DelRecent deletes the recent list.

Freeware (download from Sales contact)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

FastTask

Closes all active programs on your Palm-size PC with one simple click of its tray icon.

Shareware registration fee: $10 (download from Sales contact or Developer)
Use with Palm-size PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Grundle Software
Email: info@grundlesoftware.com
Web: www.grundlesoftware.com/

HardCopy

Take screen shots of windows on your handheld and place them in documents.

Price: $15 (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html
(Note: Demo includes mfcce20.dll files for SH3, MIPS)

Developer: Software 4 You
Email: sweckman@vistec.net
Web: www.sw4you.de/wce/

KeyMaster

Remap the 12 hardware keys of the HP 620LX/660LX to launch any programs.

Shareware registration fee: $15
(download from Sales contact or Developer)
(Note: Some handhelds need an additional MFC file to run this application. See Developer's Web site.)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: AppStudio
Email: info@appstudio.com
Web: www.appstudio.com/

Message Dialer

Use your handheld to handle your alpha numeric paging. Type in what you want, put your handheld's speaker up to a phone, and

NEW! PEPID '99
The Portable Emergency Physician Information Database
The world's first "living" medical textbook!
CONTINUOUS UPDATES available over the Internet or by mail
Developed for all Windows CE palmtops with a web browser. PEPID will also work on all laptops and desktop computers.
✓ Portable reference for all emergent, urgent and routine patient encounters
✓ Helpful for any physician at any level of training or practice in any medical field
✓ Field tested by over 4 years of actual E.D. use encountering tens of thousands of patients
✓ Used by several residency programs and many military vessels
NEW 1999 PRODUCT ENHANCEMENTS!
• 1,000+ drugs updated & over 100 new drugs added
• All medical topics reviewed [1,100+] with over 200 additions or complete rewrites
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Complete Database on CD-ROM
ready to download to your palmtop*
ONLY $295.00
*6 MB memory required
To receive more information:
Call (888) 321-STAT (7828)
for a free demo & info. pack
OR
Visit our web site: www.pepid.com
for an online demo

watch it page the person you are trying to contact. Note: The files must be placed in a folder under the program files sub-tree.

Freeware (download from Sales contact or Developer)
Use with CE 2.0 H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: School of Computing
Email: tohmk@comp.nus.edu.sg
Web site: www.iscs.nus.edu.sg/

Newton Key

Software driver that lets you use a Newton keyboard (with appropriate cables and adapters) with an H/PC.

Freeware
Use with CE 2.0 H/PCs
Sales Contact: CE Monster
Web: www.cemonster.com/index.html

Offline File Converter

Used on a desktop PC to convert files to and from H/PC file formats.

Freeware (download from Sales contact or Developer)
Use on Windows 95 desktop PC
Download at: CE Monster
Web: www.cemonster.com/index.html

Developer: NStall Company
Email: nfo@nstall.com
Web: www.nstall.com/

Palm Explorer

Lets you browse the contents of your Palm-size PC and execute and delete files! It also lets you choose whether or not to view RAM or ROM files while you are exploring.

Price: $13 (demo available, download from Sales contact or Developer)
Use with Palm-size PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Grundle Software
Phone orders or registered version: 800-427-2770
Email: info@grundlesoftware.com.
Web: www.grundlesoftware.com

Pocket CodedDrag

Windows CE 2.0 version of the desktop PC CodedDrag encryption software. It encrypts your personal data using the same encryption algorithms used with the desktop version and therefore is fully compatible.

Beta demo
Use with H/PCs
Download at: CE Monster
(www.cemonster.com/index.html)

PowerTime 2.0

PowerTime is a power monitoring tool that allows you to keep track of your (rechargeable) batteries. It maintains information about your current and past battery usage and shows the estimated remaining time. This is also a great tool to help you decide which batteries make sense.

Demo (20 day trial)
Use with H/PCs or Palm-size PCs
Full Version: $17.95
Developers contact: Christian Zangl
Email: info@sixxac.com
Support: support@sixxac.com
Web: www.sixxac.com/ce

QuickDun

Lets you quickly access the Dial-Up Networking entries on your computer or H/PC. One click displays a menu of all DUN entries and a second click launches that connection.

Shareware registration fee: $15 (download from Sales contact)
Use with CE 2.0 H/PCs
(Note: Some handhelds need the MFC file to run this application)
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: AppStudio
Email: sales@appstudio.com
Web: www.appstudio.com/

QuickExplore

Lets you quickly access your favorite Explorer folders on your computer or H/PC. One click displays a menu of all your user-defined favorite folders and a second click opens that folder.

Shareware registration fee: $15.00 (download from Sales contact)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: AppStudio
Email: sales@appstudio.com
Web: www.appstudio.com/

SenderSMS

Send SMS from H/PC using Nokia Cellular Data Card and Nokia 2110 or 8110 GSM mobile phones.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Some handhelds need the MFC file to run this application.
Download at: CE Monster
Web: www.cemonster.com/index.html

Email: insoft@hrk.prtnet.cz
Web: www.ktpquantum.cz/handheld/software/SenderSMSeng.asp

SnapIt

Take screen shots of your H/PC and transfer these standard .bmp images to documents. Only registered users will receive a full screen shot. In order to take color shots the program must be run on a color handheld.

Shareware registration fee: $12 (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Xoanan Industries
Email: scotteson@xoanan.com
Web: www.xoanan.com/

Stargate
SOFTWARE LIMITED

Stay in touch with your finances with Palm Accounts
Financial software for the handheld PC.

For a free 60-day trial visit our web site, or send a fax
for more details on 44 870 056 8382

www. stargate-software.co.uk

System Info v1.0

Lets you see the current system status of your handheld PC. An icon will be placed in the system tray while System Info is running. This icon represents the status of your batteries. If you are plugged into power, an AC icon will appear. While running on batteries a battery is displayed. The battery contains 5 bars representing 0-100 percent battery remaining. In addition to the icon mode, System Info can run in full-screen mode, providing details about the remaining battery status, backup battery, free memory, and free storage space. You can also get some benchmark statistics on the speed of your H/PC.

Price: $10.00
Sales contact: Mobilesoft
Web: www.mobilesoft.com

Developer: Emerald Technology Inc
Email: jshort@iag.net

SwTskBar

The utility starts any program in the Taskbar simply by clicking on an icon.

Freeware (download from Sales contact or Developer)
Use with H/PC
Sales contact: CE Monster
Web: www.cemonster.com/index.html

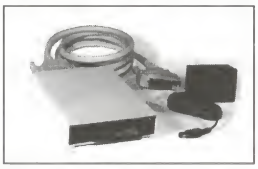
Developer: Software For You
Email: sweckman@vistec.net
Web: www.sw4you.de/wce/

TrayDate

Places date as well as time information in the system tray of the CE 1.0 and 2.0 H/PCs. The Windows CE 2.0 version opens up a three-month calendar.

Card-Link

for SRAM and ATA flash memory cards



Why struggle with cables? Transfer files the quick and easy way by adding a memory card slot to your desktop PC.

- Works like a floppy disk drive
- Connects to a desktop parallel port

$179.95 Model CL680 for Type I and Type II cards
189.95 Model CL683 for Type I, II and III cards
199.95 Model CL682 has 2 slots for Type II

We carry adapters for compact flash cards.

Steele Creek Technologies, Inc.
14035 Appling Lane, Charlotte NC 28278
Phone or Fax (704) 588-1780
Find latest drivers at www.cardlink.com

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Developer One
Email: info@developerone.com
Web: www.developerone.com/

WceLHA

Decompress files compressed in the LZH format directly on your H/PC.
Freeware (download from Sales contact)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Z-Flash CE

Educational tool that arranges text in a two column format on your H/PC, letting you create questions with corresponding answers, words with definitions, translations, and much more. After setting them up quiz yourself with its built-in quizzing feature.

Freeware (download from Sales contact or Developer)
Use with H/PCs
Sales contact: CE Monster
Web: www.cemonster.com/index.html

Developer: Rupp Technology Corporation
Email: brupp@rupp.com
Web: www.rupp.com/

Developer Products/Services

Services

Newton-to-Windows CE Conversion service

Green Mountain Software offers this service to software developers. They will convert Newton-based applications to Windows CE and/or the Palm-size PC OS. Green Mountain Software has expertise in user interface design, communications (serial, dial-up, IrDA, RF and Internet TCP/IP, SLIP/PPP and LAN), systems integration and custom hardware interfaces.

Contact: Green Mountain Software
Phone: 802-865-2728; Fax: 802-865-2468
Email: Info@GMSW.com
Web: www.gmsw.com/

Software

CE Embedded Desktop

A shell utility that provides desktop design tools for the Windows CE 2.1 operating system. CE Embedded Desktop provides a fully-configurable desktop design module for managing the user interface and launching applications. This toolkit complements the components of the Microsoft Windows CE Embedded Toolkit for Visual C++ 5.0, enabling designers to build their user interfaces and applications much more quickly.

Contact: BSQUARE Corporation
Phone: 888-820-4500 or 425-519-5900
Email: sales@bsquare.com
Web: www.bsquare.com

Training

Windows CE Device Driver & HAL Programming

Provides detailed instruction for porting Windows CE to a hardware platform. The course covers writing the OEM Adaptation Layer (OAL) for Windows CE, some of the topics include:

- A review of the Windows CE operating system.
- A discussion of the hardware requirements for developing for Windows CE.
- Writing a Windows CE bootloader.
- Writing the HAL layer underneath the kernel.
- Writing the basic set of drivers necessary to bring up a Windows CE system.

Course presents this information in a practical way with actual code examples demonstrated on Windows CE hardware.

The class will incorporate technical material provided by BSQUARE Corporation and will be taught by Windows CE expert Douglas Boling from David Solomon Expert Seminars. Boling has been working with Windows CE since its inception, and has played a lead role in porting Windows CE to various hardware platforms, including the ODO hardware reference platform. The new seminar is the latest addition to the Windows CE track already offered by David Solomon Expert Seminars, which also includes "Programming Windows CE for Win 32 Programmers."

This Expert Seminar is available for on-site delivery worldwide (minimum 10 persons) or at public offerings scheduled bimonthly. A more detailed course description, and registration information can be obtained from the following sources.

Contact: David Solomon Expert Seminars
Phone: 800-492-4898
Email: seminars@solsem.com
Web: www.solsem.com

Contact: BSQUARE Corporation
Phone: 888-820-4500 or 425-519-5900
Email: sales@bsquare.com
Web: www.bsquare.com

PC Companions

At A Glance

Handheld PCs

CASIO

CONTACT your local Casio dealer or Casio, Inc.; Phone (USA): 201-361-5400; Fax: 201-361-3819; Web: www.casio-usa.com/hpc/

Casio CASSIOPEIA A-20 — $599.95
HARDWARE: 80 MHz Hitachi SH-3 CPU; 8 MB RAM; 640 x 240 backlit display with 4 shades of gray; QUERTY keyboard, serial port, IrDA infrared port; Type II PC Card slot; CompactFlash Card slot; built-in microphone and speaker; two AA Alkaline batteries; backup battery; AC adapter; user guides; CD ROM with sample software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM: QuickNotes; pcANYWHERE CD; E-Mail Access; Financial Consultant Calculator; bFAX Pro; IntelliSync; Socket Connectivity product; PageSoft Pro; GTE Personal Sender; Tetris; Casio QV-Link; Casio Project Scheduler; Casio Paint-Atlas; Casio Sound-Vega voice memo; Casio Voice Applications voice command; Casio Teleconferencing Software; Casio Easy File Tool; Financial Consultant Calculator;
ACCESSORIES: PC Docking Cradle; AC adapter; Rechargeable Battery Pack; Windows CE 2.0 upgrade kit for CASSIOPEIA A-11 and A-11+.

COMPAQ

CONTACT your local Compaq dealer or Compact Direct Plus; Phone (USA): 800-888-5858; Web: www.compaq.com

Compaq C-Series 2010 c (color screen) — $799
Compaq C-Series 810 (gray-scale screen) — $499
HARDWARE: 75MHz MIPS RISC CPU, 16MB ROM, 8MB or 20MB RAM (expandable to 20 or 32 MB), 640 x 240 mono or color touch sensitive screen; integrated 33.6 modem (optional in some countries); Type II PC Card slot; powered by two Alkaline AA batteries (Mono) or NiMH rechargeable battery pack (standard on model 2010c) or A/C adapter (included); serial cable; user guides; CD ROM with sample software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM: not announced.
ACCESSORIES: Battery pack; Cradle; Auto sync Cable; Stylus 3-Pack; 16MB Ram Expansion; Auto Adapter; Carrying Case; Slip Case; Portfolio Case; AC Adapter; VGA PC Card.
HARDWARE: 75MHz MIPS RISC CPU, 16MB ROM, 8MB or 20MB RAM (expandable to 20 or 32 MB), 640 x 240 mono or color touch sensitive screen; integrated 33.6 modem (optional in some countries); Type II PC Card slot; powered by two Alkaline AA batteries (Mono) or NiMH rechargeable battery pack (standard on model 2010c) or A/C adapter (included); serial cable; user guides; CD ROM with sample software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CD ROM: not announced.
ACCESSORIES: Battery pack; Cradle; Auto sync Cable; Stylus 3-Pack; 16MB Ram Expansion; Auto Adapter; Carrying Case; Slip Case; Portfolio Case; AC Adapter; VGA PC Card.

ERICSSON

CONTACT: Ericsson Mobile Communications; Web: www.ericsson.com

Ericsson Mobile Communications MC16 — $749
HARDWARE: Based on Hewlett-Packard's HP 360LX (see HP section for details). Other features include: Built-in infrared modem lets you communicate with an Ericsson cellular phone to; send and receive faxes, e-mails, browse the Web; send quick SMS messages to mobile phones and fax machines; synchronize the phone book with your Ericsson phone.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. "My Ericsson Phone" application for phone book management and GSM short messaging capability for the In-Box. BFax Professional and Month-at-a-Glance.
ACCESSORIES: Information about specific MC16 accessories not available, but they should be similar to the HP 360LX's accessories. The MC16 is compatible with the following Ericsson mobile phones (model numbers): GF 788, GF 768, GH 688, GA 628, GH 398, GH 388, GF 388, GA 318, PF 768, PH 388, CF 788, CH 388, CF 388, CA 318, CF 688, CA 638.

HEWLETT-PACKARD

CONTACT your local HP dealer or Hewlett-Packard Company; Phone (USA): 800-443-1254; Web: www.hp. com/handheld

HP 660LX palmtop PC — $999
HP 620LX palmtop PC — $799
HARDWARE: 75 MHz CPU; 32 MB RAM (HP 660LX); 16 MB RAM (HP 620LX); 640x240-pixel 256 color screen; QWERTY keyboard; 56 kbps fax/modem card (with 660LX only); serial port; IrDA infrared port; Type II PC Card slot; CompactFlash Card slot; Lithium-Ion rechargeable battery pack; 3V CR2032 coin cell backup battery; microphone and audio speaker; synchronization cable; docking cradle; AC adapter; user guides; CD ROM with sample software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications; bFAX; bFIND; Financial software; Remote Networking and Terminal Application software; Calendar viewing utilities. Software on disk or CDROM: H/PC Explorer version 2.0; Translation software to convert HP 100/200LX & OmniGo 100/120 appointment/ phone books to H/PC formats; Trial software from independent software vendors.
ACCESSORIES: HP CompactFlash Memory plus PC Card slot adapter: 4MB - $89, 10MB - $149; Spare Cradle - $29.99; External Battery Charger - $79; Pack of 3 pens - $9.99; VGA Out PC Card - $119; Standard Li-Ion Battery Pack - $69; Extended Li-Ion Battery pack - $119; Sync Cable - $14.99; Leather Case - $69.00.

PC Companions...

At A Glance

HP 360LX Palmtop PC — $599

HARDWARE: 60 MHz CPU; 8 MB RAM; 640x240 monochrome screen with "natural-white" backlighting; QWERTY keyboard; serial port; IrDA infrared port; Type II PC Card slot; CompactFlash Card; 3V CR2032 coin cell backup battery; user guides; CD ROM with sample software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications; bFAX; bFIND; Financial software; Remote Networking and Terminal Application software; Calendar viewing utilities. Software on disk or CDROM: H/PC Explorer version 2.0; Translation software to convert HP 100/200LX & OmniGo 100/120 appointment/ phone books to H/PC formats; Trial software from independent software vendors.
ACCESSORIES: HP CompactFlash Memory plus PC Card slot adapter (see 620 LX accessories); Sync Cable - $14.99; Spare Cradle - $29.99; Pack of 3 pens - $9.99; Leather Case - $69.00.

HP 320LX Palmtop PC - Discontinued

HITACHI

CONTACT your local Hitachi dealer or Hitachi Home Electronics; Phone (USA): 800-HITACHI; Web: www.hitachi-ce.com

Hitachi HPW-200EC Handheld PC — $899

HARDWARE: 100 MHz Hitachi SuperH SH3 CPU; 16 MB RAM (expandable to 32MB); 12 MB ROM; 8.1" diagonal 640 x 240 touch screen; 256 color LCD display; large touch-typeable 74-key keyboard; 33.6 kbps built-in software modem; VGA-out port and IrDA interface; Type II PCMCIA slot; Compact Flash card slot; rechargeable Lithium-Ion battery pack; hot start program launch keys; built-in microphone, speaker and voice recorder; weighs less than 2 lbs with battery pack.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Software on disk or CD ROM: not announced.
ACCESSORIES: AC Adapter; Serial Cable; Docking Cradle; Lithium-Ion Battery Pack.

Hitachi HPW-20E8M Handheld PC — $599

HARDWARE: 80 MHz Hitachi SuperH SH3 CPU; 8 MB RAM; 16 MB ROM; 7.1" diagonal 640 x 240 touch screen; 16 gray-scale LCD display; 69-key QWERTY keyboard; 21.6 kbps internal software modem; VGA-out port and IrDA interface; Type II PCMCIA slot; Compact Flash card slot; rechargeable Ni-MH battery pack; quick launch keys; built-in microphone, speaker and voice recorder; weighs approximately 1 lb.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications. Software on disk or CD ROM: not announced.
ACCESSORIES: AC Adapter; Serial Cable; Docking Cradle; Lithium-Ion Battery Pack

LG ELECTRONICS

CONTACT local LGE dealer or LG Electronics Customer Information Center; Phone (USA): 800-243-0000; Web: www.lgphenom.com

LG Phenom Express — $899

HARDWARE: 100MHz Hitachi SH3 CPU; 32MB RAM; 640X240-pizel backlit 256-color VGA display (81/8" diagonal screen); new metallic design, internal 56 KBPS modem; "large" QWERTY keyboard; standard VGA-out port; standard paralle port; serial port; IrDA infrared port, Type II PC Card slot; CompactFlash capability with converter card; voice memo capability; rechargeable Lithium-ion battery pack (12 hours of battery life, according to LGE).
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system (User-Upgradeable to Windows CE Handheld PC Pro Edition) accessories and "Pocket" application. Software on disk or VDROM: Windows CE Services, third-party software bfaxPRO, Pocket Finance, Email set-up Wizard, Email FileViewing, Database backup/restore, Mail on the Run! Limited
ACESSOROES: All accessories are included.

LG Phenom —$399

HARDWARE: 80 MHz SuperH RISC-Hitachi CPU; 8 MB RAM; 640x240-pixel backlit monochrome display; internal fax/modem; QWERTY keyboard; VGA out port with cable; serial port; IrDA infrared port; Type II PC Card slot; Compact Flash slot; voice memo capability; rechargeable battery pack; docking station; power adapter; user guides; CD ROM with third party software applications.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CDROM: not announced.
ACCESSORIES: LG Windows CE 2.0 upgrade.

NEC

CONTACT your local NEC dealer or NEC; Phone: (USA) 888-8-NEC-NOW. Web: www.nec-computers.com

NEC MobilePro 750C— $799

HARDWARE: 80 MHz NEC Vr4111 MIPS CPU; 16 MB RAM; 16 MB ROM; 640x480 backlit touch screen; 256 color LCD; large touch typeable keyboard; built-in 33.6 low-power hardware modem; VGA Port for presentations; Type II PC Card slot; one CompactFlash slot; serial and IrDA ports; built-in microphone and speaker; QuickKeys program to launch applications; AC adapter; PC connectivity cable; RJ-11 modem cable; Lithium Ion rechargeable battery, Instant on and 8-hour battery life.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and Pocket Outlook, Pocket Contacts, Pocket Calendar, Pocket Tasks, Pocket Word, Pocket Excel, and Pocket Powerpoint. Software on disk or CD ROM: IntelliSync; pcANYWHERE CE; Virtual Courier; QuickNotes; bFAX; bPRINT; Jetforms E-Forms to go.
ACCESSORIES: 32 MB Memory Upgrade: 16MB CompactFlash(tm) Card; Docking Cradle; Serial Cable; VGA Cable; Rechargeable Battery Pack; (addi-

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NOVATEL WIRELESS

CONTACT Novatel Wireless; Phone (USA): 888-888-9231; Web: www.novatelwireless.com; Sales Contact: Pinacore: 1-800-PINACOR or Mobile Planet: 800-MPLANET or online at www. mplanet.com.

Novatel Wireless CONTACT — $999.95

HARDWARE: 80 MHz Hitachi SH3 RISC CPU; 8 MB of RAM (expandable to 32 MB); 640x240 backlit gray-scale touch screen; built-in 19.2 kbps wireless modem (uses existing U.S. cellular telephone networks); a 14.4 kbps wireline modem; serial/VGA port; type II PC card slot; IrDA infrared port; built-in speaker and microphone; rechargeable Lithium Ion battery, AC adapter.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications.
ACCESSORIES: All items included with unit can be purchased as accessories. In addition, the following are available: Serial/VGA cable; Leather Case; DC Car power adapter.

PHILIPS

CONTACT Philips Mobile Computing Group; Phone (USA): 888-FOR-VELO; 408-558-2200; Fax: 408-558-2222; Web: www.velo1.com. U.S. retail outlets include: CDW, CompUSA Direct; Mobile Planet, PC Connect, and PC Zone.

Philips Velo 500 with 16 MB RAM — $699
Philips Velo 500 with 24 MB RAM — $799

HARDWARE: 75 MHz MIPS processor; 16 MB or 24 MB of internal RAM (expandable to 40 MB or 48 MB with an optional 32 MB DRAM Miniature Card); built-in low power 28.8 Kbps modem with 9600 Kbps fax; DRAM Miniature Card slot; Flash/ROM Miniature Card slot; 16 level grayscale monochrome screen capable of 480x240 or 640x240 pixel display; Velo Voice Memo system; built-in phone jack; phone cord; rechargeable NiMH battery pack; and docking station, connectivity cable, 9-to-25-pin adapter, AC Adapter.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories and "Pocket" applications. Software on disk or CDROM: not announced.
ACCESSORIES: Velo 1 upgrade to Windows CE 2.0; 2 MB DRAM Card; 4 MB DRAM Card; 2 MB Flash Miniature Card; 4 MB Flash Miniature Card; Velo Docking Station; Velo Type II PC Card V-Module; Velo-to-PC Serial Cable; NiMH Rechargeable Battery Pack; Traveling AC Adapter; Carrying Case.

SHARP

CONTACT your local Sharp dealer or Sharp Electronics Corporation; Phone (USA): 800-BE-SHARP; Web: www.sharp-usa.com

Sharp Mobilon HC-5600 — $899

(256 color display, 16 MB RAM, upgradeable to 32 MB)

Sharp Mobilon HC-4500 - $799

(256 color display, 16MB RAM)

Sharp Mobilon HC-4100 - $699

(16-grayscale display, 12MB RAM)

HARDWARE The following elements are common to all Mobilon Handheld PCs: MIPS CPU; built-in 33.6Kbps data/9.6Kbps power-efficient modem; Type II PC Card slot; serial port; IrDA infrared port; 64-key keyboard, including seven "one-touch" application keys; LED indicators (Calendar and Task reminders, World Clock daily alarms, when it's time to charge the batteries, when your modem is connected, and when you are recording a voice memo); built-in microphone and speaker (to record and play voice memos); external record button; CR2032 Lithium backup battery; PC Link serial cable; RJ-11 modular phone cable; and Stylus.
HC-4500 and HC-4600 include:
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system and Accessories Microsoft Pocket Applications. Software on CD ROM or available at Web Site
HC-4100 and 4500: bFAX Express; Voice Recorder; Image Editor; Sharp Zaurus Data Transfer; Microsoft Windows CE Services; IntelliMigrate; Microsoft Schedule+ 7.0a,
In addition to the above software, the HC-4600 comes with PC File Viewer, Citrix ICA Client, bFax Pro, PhotoLink, a newer version of Image Editor, and MPEG Player.
ACCESSORIES: Docking Station Kit (includes Docking Station, NiMH Rechargeable Battery Pack, AC adapter); NiMH Rechargeable Battery Pack; Digital Camera Card; AC Adapter.

Palm-Size PC

CASIO

CONTACT your local Casio dealer or Casio, Inc.; Phone (USA): 888-204-7765 or 973-361-5400; Web: www.casio.com/hpc/e-10.cfm

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PC Companions...

At A Glance

Cassiopeia E-10 Palm-size PC — $399

HARDWARE: 100 MHz NEC VR4111 RISC processor; 4MB RAM; 8MB ROM; 320x240 touch-sensitive backlit display; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Weighs 5.5 oz (171 g); size 3.2 x 4.9 x .72 inches (8.13 x 12.45 x 1.83 cm), powered by 2 AAA batteries and a CR2016 backup battery. Comes with connectivity cradle, carrying case, manuals, and additional software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CDROM: Microsoft Windows CE Services with ActiveSync.
ACCESSORIES: Connectivity cradle, carrying case, AC adapter, modem adapter; CompactFlash storage card.

EVEREX

CONTACT Everex Systems; Phone (USA): 888-PALMPC-4; Web: www.everex.com

Everex Freestyle Associate — $329
Everex Freestyle Manager — $399
Everex Freestyle Executive — $499

HARDWARE: Manager and Executive have a 66 MHz NEC VR 4111 CPU; Associate has a 54 MHz NEC VR4102 CPU; Manager and Executive have 8 MB RAM and 8 MB ROM; Associate has 4 MB RAM and 8 MB ROM. All units have a 320x240 backlit touchscreen; CompactFlash slot; serial and IrDA ports; and built-in voice record/playback capability. Weighs 5.29 oz (150g); size 4.8x3.18x0.64 inches (12.2x8.1x1.7 cm); Powered for up to 20 hours by 2 rechargeable NiMH AAA batteries; CR2032 backup battery (batteries included). Comes with connectivity cable, AC adapter, manuals and additional software. The Manager comes with a foldable MobileCradle for data sync. The Executive comes with a MobileCradle with a built-in 33.6 Kbps fax/modem.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CDROM: Microsoft Windows CE Services with ActiveSync; bFAX Express, bTRACK, smARTwriter & smARTcommand, JOT.
ACCESSORIES: Docking station with integrated 33.6k modem; NiMH rechargeable battery; wireless paging card.

LG ELECTRONICS

CONTACT local LG dealer or LG Electronics Customer Information Center; Phone (USA): 800-243-0000; Web: www.lge.co.kr
LGE Pocket Phenom - $TBA (not yet shipping)
Hardware: SH3 processor; 320x240 touch-sensitive backlit display; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Powered by 2 AAA batteries, backup battery. Weight, size, and other details not yet available.
BUILT-IN-SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM: Microsoft Window CE Services with ActiveSync.
ACCESSORIES: Information not yet available.

PALMAX

CONTACT Palmax; Phone (in Taiwan): +886-2-2266007; Email: palmax@palmax.com.tw; Web: www.palmax.com.tw

Palmax PD-300 Palm-size PC — $299 (not yet shipping)

HARDWARE: 60 MHz SH3 processor; 2 MB RAM (expandable to 4 or 10 MB); 8MB ROM; 320x240 touch-sensitive backlit display; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Weighs 6.5 oz (184 g) size 4.9 x 3.2 x .8 inches (12.45 x 8.13 x 2.03 cm), powered by 2 AAA batteries and a CR1220 backup battery. Comes with connectivity cradle, AC adapter, manuals, and additional software.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CDROM: Microsoft Windows CE Services with ActiveSync
ACCESSORIES: NiMH rechargeable battery pack.

PHILIPS ELECTRONICS

CONTACT Philips Mobile Computing Group; Phone (USA): 888-367-8356 or 408-558-2200; Fax: 408-558-2222; Web: www.mobile.philips.com

Philips Nino 301 and 302 Palm-size PC — $399.99/$499.99

HARDWARE: 75 MHz MIPS R3900 processor; 4MB or 8MB RAM; 8MB ROM; 320x240 touch-sensitive backlit display with control dial; built-in low power 22.8 Kbps modem; CompactFlash slot; serial port, IrDA port, built-in voice record/playback capability. Weighs 7.33 oz (227 g); size 3.41 x 5.25 x .8 inches (8.66 x 13.34 x 2.03 cm). Four quick start buttons launch the most commonly used applications. The 301 is powered by 2 AA batteries and a CR2025 backup

battery and comes with NinoDock connectivity cradle, carrying case, manuals, and additional software. In addition to the above, the Nino 302 also comes with a NiMB rechargeable battery. Either model can use the battery pack or AA batteries.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and "Pocket" applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CDROM: Microsoft Windows CE Services with ActiveSync; T9 — a utility that facilitates data entry by predicting words and character strings you enter; smARTwriter handwriting recognition software, and voice command recognition software. The package will also come with Nino-specific applications, which will be announced later.
ACCESSORIES: Modem, CompactFlash Cards, NiMB rechargeable battery pack.

SAMSUNG

CONTACT your local Samsung dealer or Samsung Electronics America, Phone (USA): 201-229-4000; Fax: 201-229-4019; Web: www.sosimple.com

Samsung Palm-size PC — $TBA (not yet shipping)

HARDWARE: 75MHz
MIPS processor; 2MB RAM (expandable to 8 MB) and 4 MB ROM (expandable to 8 MB); 240x340 touch-sensitive backlit display; built-in 28.8 modem; CompactFlash slot; serial port; IrDA port; built-in voice record/playback capability. Weighs 3.88 oz (110 g) (plus weight of batteries); size: 3.35 x 5.12 x .78 inches (8.51 x 13 x 1.98 cm); powered by 2 AA batteries; backup battery. Comes with Connectivity cradle, AC adapter, user manuals.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system, accessories, and Pocket applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CDROM: Microsoft Windows CE Services with ActiveSync.
ACCESSORIES: No information at this time.

UNIDEN

CONTACT Uniden; Phone (USA): 888-6-UNIDEN; Web: www.uniden.com

Unipro PC100 Palm-size PC - $379

HARDWARE: 75 Mhz CPU; 4MB RAM (expandable to 8MB) and 8MB ROM; 240x320 touch-sensitive, 4 level grayscale screen with back lighting; 28.8kbps internal modem with RJ-11 connector; Type II CompactFlash slot; built-in voice recorder; serial port, IrDA port. Powered by 2 AA batteries.
BUILT-IN SOFTWARE: Microsoft Windows CE 2.0 operating system with Palm-size PC applications, including Pocket Outlook, Inbox, Mobile Channels and Notetaker. Software on disk or CD ROM includes Microsoft Windows CE Services with ActiveSync which automatically syncs Palm-size PC and desktop Outlook data and other files while in the docking station.
ACCESSORIES: Comes standard with docking cradle, AC/DC adapter, stylus pen with storage, and CD-ROM containing Microsoft synchronization software.

Auto PC

CLARION

CONTACT your Clarion dealer or Clarion Sales Corporation; Phone (USA): 310-327-1999; Fax: 310-327-1999; Web: www.autopc.com or www.clarion-multimedia.com

Clarion Auto PC — $1,299 (not yet shipping)

HARDWARE: 60 MHz Hitachi SH3 processor; 8 MB RAM; 8 MB ROM; 8-color, 256 x 64 pixel active magrix LCDdisplay with detachable face plate; microphone; CompactFlash slot; IrDA infrared port; serial port; 1-DIN form factor fits in standard dashboard slot; AM/FM stereo tuner; 35 watt x 4 channel; 4 pre-amp outputs; CD/CD-ROM player; Digital Sound Processor (DSP); Universal Serial Bus (USB).
BUILT-INSOFTWARE: Windows CE 2.0 operating system with voice-activiate control; voice memo, address book, highway navigation, vehicle mileage log, text-to-speech messages.
ACCESSORIES: CompactFlash memory card; InfoGation AutoPCfile manager; Clarion GPS receiver; map data for Global Positioning System; Clarion USB 6 CD/CD-ROM auto changer; UNGOUSBvehicle security system; cellular telephone/modem USB interface, FM side-band wireless receiver &services, ASSIST services, vehicle diagnostic/monitoring interface.

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Andrew Seybold

Wireless Packet Data

Packet Data is a method of transmitting digital "packets" of data over a wireless network. Many in the mobile computing and communications industry seem to believe that wireless packet-data networks offer the best mode of communication for data and information typically sent and received by mobile computing devices.

We are certainly packet-data advocates, but we are also realists. Packet data is important, but it is not necessarily the best form of wireless transport in all cases. Perceived problems with packet data include slow data speeds and high costs. But these are minor when compared with the more important issue of using a packet-data network to connect a mobile device back to a user's own desktop or the enterprise's LAN.

Today, such a connection requires a dedicated telephone line between the LAN or the desktop and the wireless network's nearest point of presence. If the Internet or an intranet is used for the bridge connection, middleware and a secure connection are needed. These solutions require attention from the Information Technology manager or IS manager at your company.

Winning his or her support can be difficult at best, unless a wireless data strategy is key to a particular group of mobile workers within the company—sales, service, etc. While many companies and individuals are focusing their efforts on providing easier, secure links between wireless packet-data networks and end-users' data, today there is no one, simple solution.

Having opened our discussion of packet-data communications with these caveats, let us now turn our attention to what is currently available.

In the U.S. today, there are four wireless packet-data networks or service offerings: Metricom's Ricochet, ARDIS/AMSC, Cellular Digital Packet Data (CDPD), and BellSouth Wireless Data (BSWD, formerly RAM Mobile Data).

Ricochet

Metricom's Ricochet networks are available in three major metropolitan areas: San Jose/San Francisco, Seattle, and Washington DC. Ricochet networks have also been installed in about ten of the busiest U.S. airports and on a number of college and university campuses.

Ricochet is not a truly "mobile" data system. It provides a wireless connection for mobile computers that are at rest, anywhere they happen to be within the coverage area. While some users have found that the network can support limited, basic access while the device is in motion, the primary purpose of the Ricochet system is to provide wireline data speeds to computers that are carried to remote sites, set up, and used while stationary.

Today, data speeds of up to 33 Kbps or more are achievable using Ricochet. Even though it is a packet-based network, Ricochet looks and feels like a dial-up network connection to the end-user. This is a real plus for people who are familiar with standard wired

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ABOUT THE AUTHOR

Andrew Seybold heads a computer and communications industry consulting and newsletter company, and publishes the well-respected Andrew Seybold's Outlook on Communications and Computing. He has an extensive radio communications and computer background, is recognized as one of the top analysts in these fields, and is a founder and President of the Portable Computing and Communications Association (PCCA). Andrew Seybold's Outlook can be reached at 408-338-7701, fax 408-338-7806, e-mail: lseybold@outlook.com

modem access and who know how to dial up and connect to services they want and need.

The cost to the user, including unlimited Internet access, is about $30 per month. The wireless modem can be purchased for between $150 and $350 depending on the model, or can be leased as part of the monthly service package.

Ricochet is great for those who want dial-up access within the coverage areas available, and where wired phone access is not available. It is also an economical alternative to a second or third phone line in your home, and for fleets of users.

The network's shortcomings include limited coverage and wireless modems that are fairly large and bulky. Even the new modem is about the size of a PalmPilot or Windows CE palmtop.

Metricom has several priorities for their network. The first is to implement its new network backbone in existing coverage areas (Silicon Valley, Seattle, and Washington DC). According to Metricom, this will increase access speeds from in the 28-33 Kbps range to 56 Kbps or higher. They also plan to install the system in up to ten new cities over the next few years. (For more information, visit Metricom's Richochet Web Site at www.ricochet.net/.)

ARDIS/AMSC

The ARDIS network is one of two packet data-only networks providing nationwide coverage (90% of the U.S. business population). ARDIS was recently purchased from Motorola by American Mobile Satellite Corporation, and its coverage is being augmented by AMSC's satellites.

The network operates at a speed of 19.2 Kbps in most major metropolitan areas, and 4.8 Kbps in the balance of its coverage area. ARDIS is committed to bringing the entire network up to 19.2 Kbps in the near future. Most of its customers are corporations with fleets of users that use the system to extend their own information resources wirelessly. In this application, dedicated wireline circuits are used for the connection between the ARDIS network and the corporate LAN.

ARDIS is one of the two U.S.-based networks that were designed from their inception to provide solid in-building coverage. Because the network was designed to enable IBM service personnel to access the IBM computer network while working on customers' copiers, computers, or other IBM products, good coverage inside buildings was a basic requirement.

ARDIS offers many different pricing plans depending on the type of service and access a customer needs. For our user profile, we would select the plan for customers wanting access to AirMobile for cc:Mail and Lotus Notes: Unlimited two-way use of the ARDIS system for $49.95 per month.

Other plans include a bundled wireless modem and 100 KB of data for a monthly charge of $69.95. There are two plans for two-way paging and messaging. One is $39.95 per month for up to 100 messages (up to 240 characters in length) with an overage price of $0.35 per message. The next tier is $49.95 per month for unlimited use. There are additional charges for operator-assisted messaging and fax send options.

The most attractive aspect of this pricing model is that our user would be charged a maximum of $49.95 per month. Flat-rate pricing is one of the most important advantages to using the ARDIS network.

At present, ARDIS offers a two-way paging device made by Research In Motion that is about twice the size of the Motorola PageWriter 2000, as well as PC Card modems and built-in modems from Motorola. Because most of its customers are in the vertical markets, many of the end-user terminals designed to be used in conjunction with the ARDIS network combine computing and communications devices that are designed to be vehicle-mounted.

ARDIS would like to provide wireless data services to the re-emerging horizontal market segments that use palmtops, handhelds, and mobile computing devices. However, as with other packet-based networks, the difficulties encountered by users in connecting back to their own desktops or LANs are a stumbling block to providing wireless data services to diverse groups of companies and individuals.

ARDIS/AMSC provides for Internet access, and corporate LANs can be connected via dedicated wireline circuits. Depending upon the type of software installed in the mobile device, and the type of connection between the network and the information resource, ARDIS users communicate over the network in near-realtime.

While the network speed is not conducive to Web surfing, large file transfers, or heavy graphics usage, it is a solid and reliable network for e-mail, dispatch, and short-messaging activities. It is not known whether ARDIS is working with any wireless modem suppliers. However, we believe that there may well be an opportunity for ARDIS to provide wireless access to palmtop and handheld PC users.

ARDIS is not concerned at this time about the amount of data that is sent and received over its network, and its pricing structure is such that users can easily afford to use ARDIS for calendar and phone book updates, e-mail notification, and short messaging. The ARDIS network is also ideal for use as a "command-and-control" center for a total mobile connectivity service.

The industry needs to figure out what it takes to easily connect a packet-data network to corporate LANs, small business LANs, and even individual desktops. Once it does, ARDIS will be ideally positioned to attract individuals and small groups of users in addition to the corporate clients that currently make up the majority of its client base. (For more information, visit the ARDIS Web site: www.ardis.com.)

Cellular Digital Packet Data

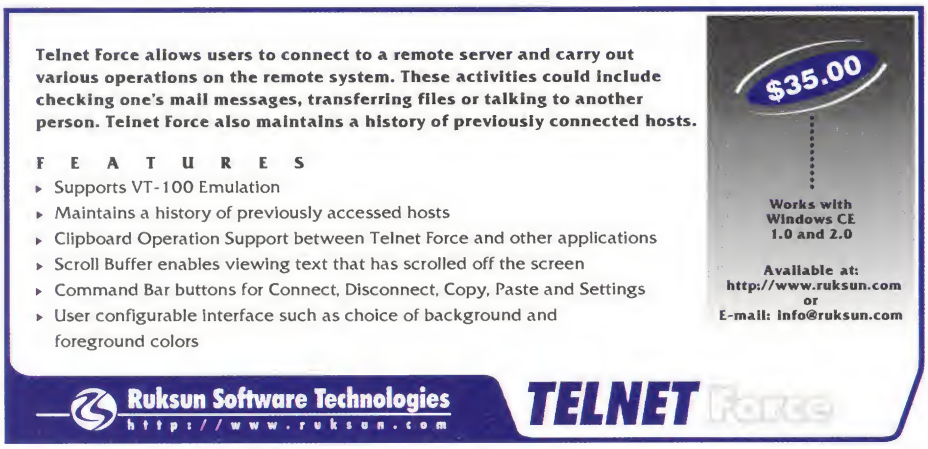
CDPD is a packet-data service offered over a number of AMPS analog cellular systems. At present, there is CDPD coverage in approximately 50% of the U.S. CDPD is not a single, nationwide network. It is a patchwork of systems implemented by several cellular providers including AT&T, Ameritech, Bell Atlantic/Nynex, and GTE. However, all of these systems support roaming from other CDPD areas. Costs vary with the type of service and the carrier. Recent pricing changes include flat-rate pricing options offered by AT&T Wireless Services.

Pricing for CDPD services (Wireless IP) varies from carrier to carrier. However, many have gone to flat-rate pricing models for features such as Internet access. Bell Atlantic/Nynex, for example, offers a $54.95 per month Internet access package when using the service within its own coverage area. Outside the area, the user is billed an additional charge for roaming.

Typical CDPD pricing ranges from $14.95 per month for 150 KB of data to $89.95 per month for up to 4000 KB of data. Overage charges start at $0.10 and decrease to $0.04 per KB on the $89.95-per-month plan.

CDPD has attracted more wireless modem vendors than any of the other services. Products include PC Card wireless modems by Sierra Wireless, Motorola, and others. Novatel offers snap-on modems for PalmPilots, and a CDPD wireless modem built into a handheld PC (see review, page 15). Prices for these devices start at around $400, but we expect this to drop if there is increased demand.

AT&T, as well as several other CDPD network providers, is also promoting a



PocketNet phone service made up of an analog cellular phone with a built-in CDPD modem and software to enable text-based access to the Web. The phone can also be used as a wireless modem by connecting it to a mobile computer.

Some CDPD providers have begun to understand that wireless data is about solutions selling and flat-rate pricing. Bell Atlantic has put together a number of plans to promote its CDPD services and is working with value-added resellers and software companies to provide solutions for a variety of end users, from vertical market groups such as police, service fleets, and delivery vehicles, to individuals who want to be able to "surf" the Net from a wireless device.

CDPD provides coverage to only about 50% of the business population in the U.S., and in-building coverage is not as robust as that of ARDIS or BellSouth Wireless Data. If a customer is within a CDPD coverage area, the service is sufficiently robust to provide a 10K throughput connection, and Web-surfing is tolerable.

BellSouth Wireless Data

The BSWD network (formerly RAM Mobile Data), as with the ARDIS network, was built to provide data-only services. The network was designed to provide solid in-building coverage because many of its users were service personnel who work on equipment inside office buildings.

Today, the system covers more than 90% of the U.S. business population. When BellSouth acquired 100% ownership earlier this year, it pledged to increase network coverage within existing cities and expand to new cities. Thus far, BSWD has added about 500 new base stations. Over the course of the next year, this number will double.

The BSWD system supports seamless roaming, and users are not billed roaming charges. It is designed to handle both inbound and out-bound data at a speed of approximately 8 Kbps. While the majority of users are from vertical markets, an increasingly large number are signing on as single users or small groups of users interested in e-mail and two-way messaging.

BSWD is well suited for text-based information such as e-mail, short messages, and command-and-control functions. While the system is capable of sending and receiving messages up to at least 16K in length, large file transfers or graphics in any volume should not be sent over the network (nor over ARDIS or CDPD networks).

Information may be sent and received via the BSWD network by connecting the closest network point of presence to a corporate LAN by means of a dial-up or faster dedicated circuit. The BSWD network also provides access to the Internet as well as several intranets. As with CDPD and ARDIS—which are also packet-based systems—connection points must be provided where the network meets the wired infrastructure. Connection points are dedicated or they can move information over the Internet to the end source.

Research In Motion (RIM) makes a PC Card wireless modem for the BSWD network as does Ericsson. RIM also makes a two-way "Inter@ctive Pager" for two-way messaging and paging over the BSWD network. Ericsson and RIM both make wireless modems that can be built directly into computing devices for use in the vertical markets, and several vendors offer vehicle-mounted modems.

BSWD has several types of pricing models. If you want to use an Inter@ctive Pager, for example, there are two tiers of service:

200 500-char messages – $24.95/month
400 500-char messages – $34.95/month

Overage is charged at $0.25 per message. Pager rental adds $5.00 per month to these prices.

Using our model and counting the number of messages as well as characters, the BSWD customer with the 200* message allowance would pay a monthly cost of $24.95 plus 201 messages at $0.25 for a total of $74.95. If the customer chose the 400-message plan, the total cost would be $35.20 ($34.95 plus one over-call at $0.25).

*While BSWD permits 200 messages per month of up to 500 characters each, for a total of 100,000 characters, each of our model customer's messages counts as a single message regardless of the number of characters. Thus the inbound message count is 308 messages. Adding 30% for return messages, the total number of messages for the month stands at 401.

For more information, visit the BellSouth Wireless Data Web site at www.ram.com/index.html.

Conclusions

We suspect that ARDIS, CDPD, and BSWD will keep the pressure on two-way wireless messaging prices. The trend seems to be to move to flat-rate pricing for an all-you-can-eat model. Such a model works today for these three networks because they are not heavily loaded.

The model does not work for the one-way paging networks we spoke about in the last issue, because they are already heavily loaded. In fact, one-way network providers are trying to find ways to reduce the amount of data sent over their networks. Therefore, changing one-way paging pricing to reflect increased traffic due to computing devices does not seem to be a viable option.

When we compare the above pricing models to current wireless voice pricing at "teen"-cents-per-minute rates, wireless data costs appear to be high. But there hasn't been an overwhelming demand for wireless data services. We believe that as user demand increases, prices will fall and more companies will embrace flat-rate data pricing to keep their users happy. ■

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Quick Tips & PC Companion Tricks

Thanks go to all the people who have written tips for, and shared their knowledge of the Handheld PC, Palm-size PC and Windows CE. This includes the folks at Microsoft, manufacturers of the H/PCs, and members of online forums supporting users of the PC Companions. Based in part on these sources, all tips are written by Rich Hall (unless otherwise specified).

Eye-stopping start-up screens

The Web is a wonderful place to find graphic images of your favorite art, be it the works of Andy Worhol or James Whistler. I recently went up to the Artchive site (http://artchive.com/core.html) to download images from one of my favorites, J.M.W. Turner, a British painter of the early to mid 1800's. The images on this Web site are high-resolution JPGs.

You can use downloaded images of any sort to class up power-on and desktop screens of your H/PC. Here's how you do it.

Screen 1: You can download a bitmap image to your H/PC and set up the power-on screen to display it as a background. Shown here is "The fighting 'Temeraire' tugged to her Last Berth to be broken up" – 1838 – by J.M.W. Turner.

POWER-ON SCREEN

1. Download and save your image – I do most of my Web surfing from my desktop PC. I right click on the image I want to save, give it a location and name, and save it. Then I open it in a desktop PC graphics program and convert it to a 256-color bitmap image. I also save it as a 640x240 image so that it fits the H/PC's screen. I sometimes have to re-capture a portion of the screen so that it fits the 640x240 proportions of the H/PC.

2. Use Windows CE Services to transfer the .bmp image to your H/PC. Connect the H/PC to your desktop PC and start the Mobile Devices application. Pull down the File menu and select "Explore." Then drag the .bmp file from your desktop PC to the Windows directory on your H/PC. I do not convert it to the 2bp format. The image seems to lose quality when you do.

3. Rename the file STARTUP.BMP. This overwrites the default image (the default will be restored if you delete this new image).

4. Open the H/PC's Control Panel, tap on the Owner icon, and make sure you check the box labeled "Display Owner Identification."

Every time you press the ON button, after a power-off the power on screen, with your custom .bmp image, will be displayed (see Screen 1).

DESKTOP SCREEN

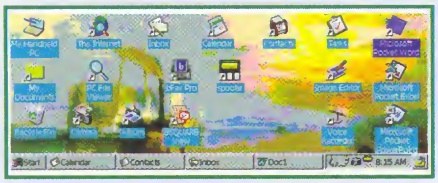
You can replace the background image with your custom .bmp image as follows:

1. Download, convert, and transfer the image to the Windows directory of your H/PC, as described above.

2. Open your Control Panel, tap on the Display icon, and select "startup:" from the Image drop-down list at the bottom of the dialog screen. Tap OK .

Keeping copies of important documents on your desktop PC and PC Companion

It's handy to have copies of certain documents on both your desktop PC and H/PC. For example, your company may keep its product list and description in an Excel spreadsheet or a Word document for easy distribution around the organization. It would be important for a mobile professional in that company, a salesperson for example, to keep a copy of the product list on his



Screen 2: Reduce applications to items on the taskbar, instead of closing them down completely. They open quicker, and right where you left off working.

or her H/PC. It's pretty simple to copy it over and have Windows CE Services convert it to Pocket Word or Pocket Excel format. But it's also possible to set things up so that the H/PC document is automatically synchronized with the desktop PC version whenever that is changed. Here's how you do it.

1. In the Windows CE Services Mobile Devices application (on your desktop PC) pull down the Tools menu, select the ActiveSync Options item, and check the File Synchronization box.

2. Place the desktop version of the document in the "Synchronized Files" subfolder of your desktop's "My Documents" folder. For example, if you have a Phenom Ultra H/PC, the subfolder will be found at:
C:\My Documents\PhenomHPC Synchronized Files

3. Open Mobile Devices, then open Explorer, and drag the document from the above folder on the desktop PC to the H/PC's synchronization folder, named:
\My Documents\Synchronized Files

Whenever you run ActiveSync, the files in the synchronization folders will be synchronized. Not that you should not change the document names on the desktop or H/PC. In the above example, if the company issued a new product list, you would save it in the desktop PC's synchronization folder and give it the same file name as the document you had set up to synchronize. (Any documents created on the Palm-size PC, such as Note Taker documents and Voice Recorder .WAV files, are stored in the Palm-size PC's "My Documents" folder, and are synchronized by this procedure.)

You can use Windows CE Services to synchronize not only Pocket Contact data, but other file types, including: bitmap images, hypertext documents, Pocket Word and Excel documents and templates, Rich text and text documents, Note Taker documents (from the Palm-size PC), .WAV sound files, and more.

Don't close your applications!

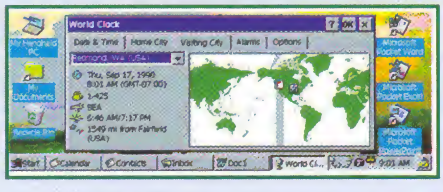
You don't need to close your applications on the H/PC. Notice that whenever you open an application, a button for it appears on the task bar at the bottom of the screen. When you're finished with an application, just tap the button and the application disappears, but the button remains (see Screen 2). When you need to use the application, tap on the button and it pops back up, right where you left off working.

You could close the application each time you were finished with it by tapping on the "X" button, but opening a completely closed down application takes a little longer. I still close down applications I use infrequently, when I'm finished with them. But I leave the common applications – Calendar, Contacts, and Pocket Word – open but reduced when I'm not using them.

Distance between two cities

Your H/PC or Palm-size PC will tell you the distance between any two cities in World Clock. Enter one city as your home city and another as your visiting city. Then go to the visiting city's tab in World Clock. Below the name of the visiting city is a list of facts about the city, which include the day, date and time at the city; the country and area (phone) codes of the city; the nearest airport; and the sunrise/sunset times for the city. At the bottom of this list is the distance the visiting city is from the home city (see Screen 3). If your city isn't in the list provided in Windows CE, you can create a "Custom City" from World Clock's option tab.

The computer algorithm figures the distance based on latitudes and longitudes. This means you can use World Clock to figure the distance (as the crow files) between any two points on the globe. For example, in 1912 the Titanic struck an iceberg and sank at 41° 46' N Longitude, 50° 14' W Latitude en route to New York City. I can open up World Clock and set my home city as New York. Then I can create a new custom city (I'll call it "Iceberg"), and select it as my visiting city. The facts list in the Visiting City tab tells me that the great ship was just 1,232 miles from New York when she went down.



Screen 3: World Clock's "Visiting City" tab shows date, time, and other facts about the city, including its distance from your home city.

Access World Clock fast

World Clock lets you set your H/PC or Palm-size PC's date and time. Actually, you get to set two clocks, one for your Home City and one for a Visiting City. You can access World Clock through the Control Panel, but it's quicker to double tap on the time displayed in the "system tray" (lower right of the screen).

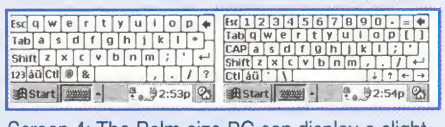
Hide the Taskbar for more room on the screen

If you want to add a little more viewable space to your screen you can hide the taskbar. Hold down the Alt key, tap on the task bar, then tap on "Properties," check the box labeled "Auto hide", and tap the OK button.

It's still there, but it's just hiding from you, letting you see more of the screen. Tap on the very bottom of the screen and the taskbar reappears..

Make "soft keyboard" larger on the Palm-size PC

The Palm-size PC comes with handwriting recognition capability (thanks to JOT). In addition, it comes with a "soft keyboard," which displays a little QWERTY keyboard on the bottom of the screen and lets you tap out your data entry. The keys are very small, and it's easy to miss the one you're aiming at. Fortunately, you can increase the size of the keys. From the Start menu, select Settings and then Input Panel. Make sure the "Current input method:" is listing "Keyboard." Then tap on the "Options" but-



Screen 4: The Palm-size PC can display a slightly larger "Soft Keyboard, making it easier to enter data into Palm-size PC applications.

ton, select the "Large keys" option and tap "OK" a couple of times. The keys are a little bigger and easier to tap on (see Screen 4).

Tap the "123" key located in the lower left of the soft keyboard and numbers and symbols are displayed. Tap on the "áü" key, located next to the "123" key, and common international characters from Western languages are displayed.

Synchronize items immediately

You can keep your PC Companion in its data cradle (or connected to your desktop PC via cable) all the time, with Windows CE Services set to continuous synchronization. Whenever you make a change to your desktop version of Outlook, the change is immediately transferred to your PC Companion. If you have to leave your desk quickly, you grab your PC Companion and go, with all your data up to date.

The process is simple. Keep your PC Companion connected all the time, via serial cable or data cradle. Then follow these steps:

1. Open the Mobile Devices folder, select the icon for the appropriate PC Companion (if you have more than one),

2. Pull down the Tools menu and go into ActiveSync Options,

3. Check "automatically synchronize if data is out-of-date."

You may have to close down and re-start Mobile Devices to get the change to ActiveSync Options to be recognized. But once it is, changes to Tasks, Calendar, and Contacts on the desktop PC show up on the PC Companion almost immediately.

If you decide not to activate continuous synchronization, you can do a quick synchronization (of any connected PC Companion) by right clicking on the Windows CE Services tray icon and selecting Synchronize Now.

Backup hardcopy of Contacts

Not only do I keep my H/PC's Pocket Contacts synchronized with my desktop PC, I keep a printed out copy of Contacts in an old-fashion file folder, in a real file cabinet – just in case! The easiest way to do this is synchronize with your desktop PC, and print out the list from there. In Office 97 & 98's Outlook, you select Print from the File menu and go from there. The process is similar in other desktop PC contact managers.

You can do the same thing from Pocket Contacts on the H/PC. Connect up to a printer, select Print from the File menu, fill in the options and tap on the OK button.

Make a note and move on

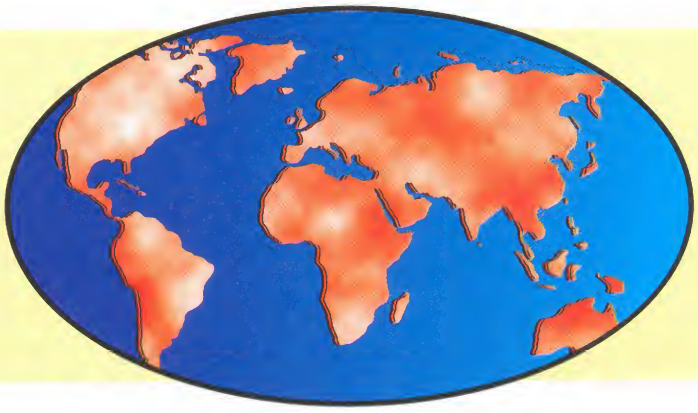
When I'm working on an article, under a heavy deadline, I don't let anything stop me. If a piece of information is missing and I know where it's located, I'll get it quickly, drop it in, edit it down to size, and move on. If I don't know where it is, I'll leave a note in the body of the text (e.g., "xx get price and contact info from vendor xx") and move on. Sometimes, I'll open up Inbox, fire off a quick message to the vendor or the author of the article, and move on.

I don't have to change the way I do things much on my H/PC. Pocket Word and Excel don't have all the features of the desktop PC versions, but I don't really need them. I'll leave notes about missing information and fill in the blanks when I copy the document over to the desktop PC.

If I need to send someone a message, I do it when I think of it, from Inbox on the H/PC. Later, when I synchronize my H/PC with my desktop PC, the message gets sent.

Occasionally, but not often, I'll go up on the Web from the H/PC, to look for specific information from a vendor. But if it can wait, I make a note about it in the article I'm working on, or sometimes in Tasks, and move on.

PC COMPANIONS ONLINE



Tom's Year-End Top 10 Windows CE Websites

By Tom Gibson

Technical Editor, Handheld PC Magazine
Email: tom_gibson@thaddeus.com Web site: www.thaddeus.com

The year is drawing to an end, and we've seen a lot of activity in the Windows CE marketplace. We've seen the release of Windows CE versions 2.0 and 2.1, and new form factors such as the Palm-size PC, the Auto PC, and now the Handheld PC Pro. There has also been an online explosion of great Web sites devoted to Windows CE. I wanted give you an update on the top ten, the best of the best, the sites that I feel deserve to be on everyone's list of favorites. The truth is more than ten deserve to be on this list. I apologize if I leave your favorite off. Let me know about it.

members.aol.com/pdcchrisd/

Chris De Herrera's Windows CE site has just about everything you would want to know about Windows CE. Chris is an online consultant for AOL's Windows CE Forum, a columnist for Microsoft Comm Link, and a Microsoft Most Valuable Professional - Windows CE. Chris has FAQ (Frequently Asked Question) documents covering just about ever Windows CE question there is, from Active Sync and PC card Modems to Infrared and Network Clients. Chris is also a contributing writer for *Handheld PC Magazine* (see page 15) and his Web site has links to the articles he has written for us and for Microsoft. This site is continually updated so make sure to stop back often.

www.craigtech.co.uk/hpc/

Craig Peacock also has a comprehensive, and continually updated site on a wide variety of Windows CE topics. He has an excellent section for Palm-size PC, lots of FAQs, tips, and articles that Craig has written. Craig has designed his site to be viewed with a desktop PC or on the H/PC with Pocket Internet Explorer. Craig also writes for *Handheld PC Magazine* (see page 26).

www.cemonster.com/

CEMonster is probably the most comprehensive source of freeware, shareware or demoware for Windows CE. The site, from the same folks who maintain Tucows, is very well organized, with a number of well-thought-out categories.

www.wincecity.com/

CECity is another very comprehensive site that is updated regularly. Topics covered include software, hardware, accessories, reviews, support, tips, and links to other Windows CE sites. CECity has a very comprehensive message board section, covering software, hardware, bug reports, classified, wish lists, and more. They also have a special section for developers.

www.microsoft.com/windowsce/default.asp

This is Microsoft's Windows CE homepage and the place to get the latest news about the operating system, hardware and approved software, and more. There are links to separate pages for each PC Companion, Embedded systems and more. Microsoft has some great freeware available for download including Pocket Streets and PowerToys.

www.windowsce.com/

HPC.net is one of the first Windows CE sites to come online and has kept their site up to date and very easy to maneuver around in. This is also the home of the Windows CE Talk mailing list, a must for anyone seeking

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support from other users and developers. HPC.net has lots of links, news, downloads reviews and tips. Well worth going back to often.

www.mindspring.com/~awolters/pie/piehome.html

Abby's Pocket Internet Explorer Pages is where you can find links to PIE-friendly sites. Windows CE has Pocket Internet Explorer built in, so while you are online with your PC Companion, stop here to get the most out of your experience.

www.mobilesoft.com/

MobileSoft is a site to go and download commercial software. If it was designed for Windows CE and is for sale, chances are you will find it here.

www.winceonline.com/

WinCEOnline is another great site for news, tips, reviews and support. There is a section where you can buy software online and also download freeware/shareware/-demoware while you are here.

www.thaddeus.com

Home page for *Handheld PC Magazine*. You can go here to see the table of contents for all the issues we have published to date. You will also find a comprehensive listing of third party products available for your PC Companion.

Thomas Fessler is running a web-based survey on what games should be made for Windows CE. He is trying to develop an opinion from you Windows CE users out there to find out what kind of games you want to see. Thomas says he hopes to make a difference, so give him some response and I'll see you OnLine! ■

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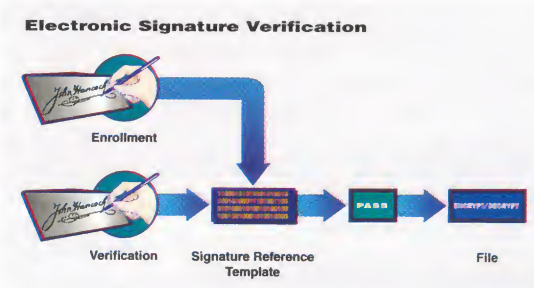

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bSquare Technologies	888-820-4500 or 425-519-5900	5
Cross Pen	800-510-9660	1
CrownLogic	877-252-7001	42
Everex Systems	888-725-6724	13
Green Mountain Software	802-865-2728; Fax: 802-865-2468	16
Greenwich Instruments	800-476-4070 or 704-875-8490; Fax: 2801	34
Ilium Software	888-632-5388 or 734-973-9388; Fax: 734-973-2640	5
Logency	503-622-4055; Fax: 503-622-4537	9
MagicRAM	800-272-6242 or 213-413-9999; Fax: 213-413-0828	52
MicroBurst	301-330-2995 or 301-330-8609	37
MobilePlanet	800-675-2638 or 818-888-7267; Fax: 818-888-3484	5
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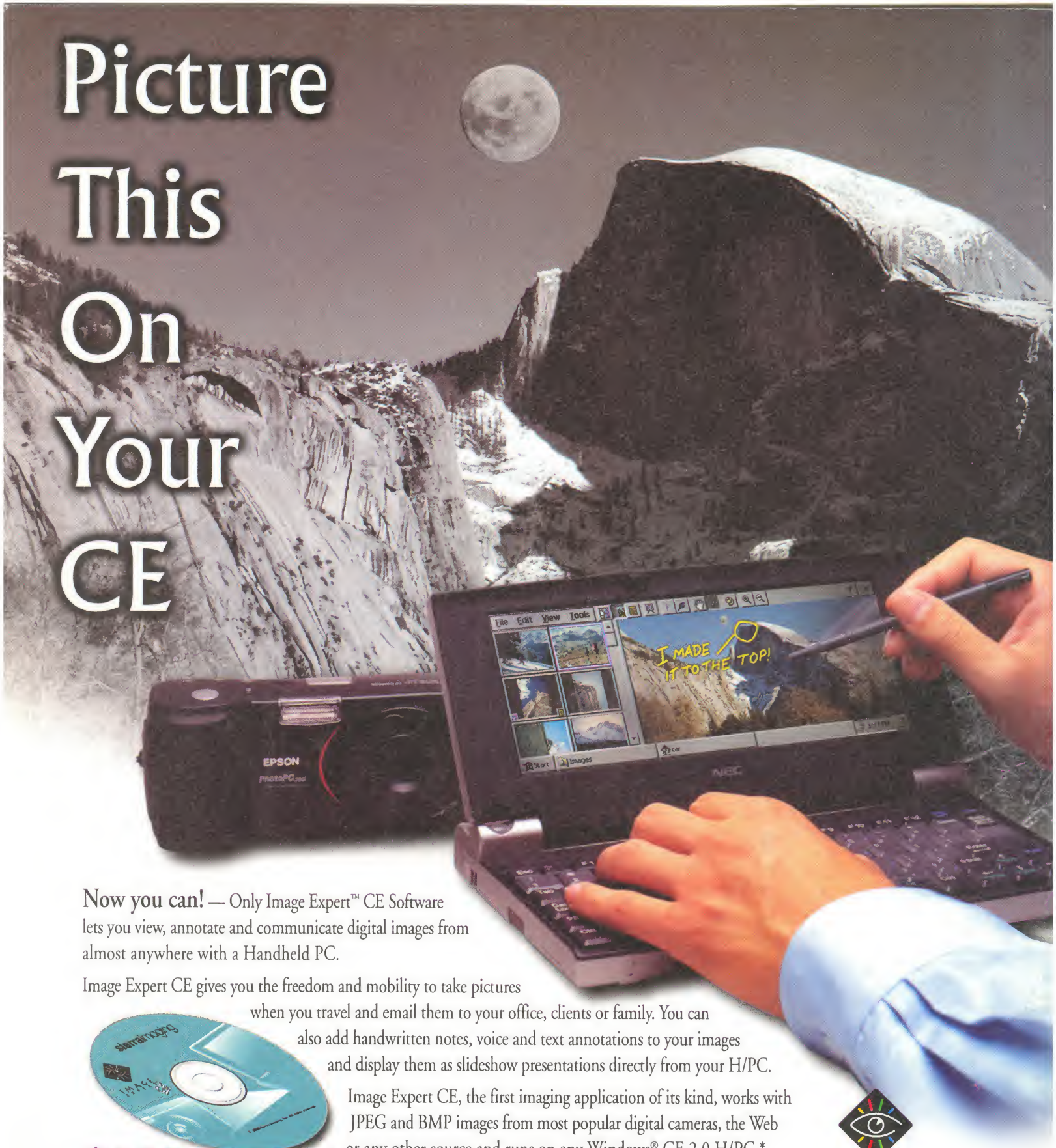

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